HISTORIC LOCOMOTIVES RUNNING IN THE 21ST CENTURY

Trains SPECIAL

STEAM TODAY

SPECIAL COLLECTORS EDITION!

DISPLAY UNTIL JUNE 24, 2008

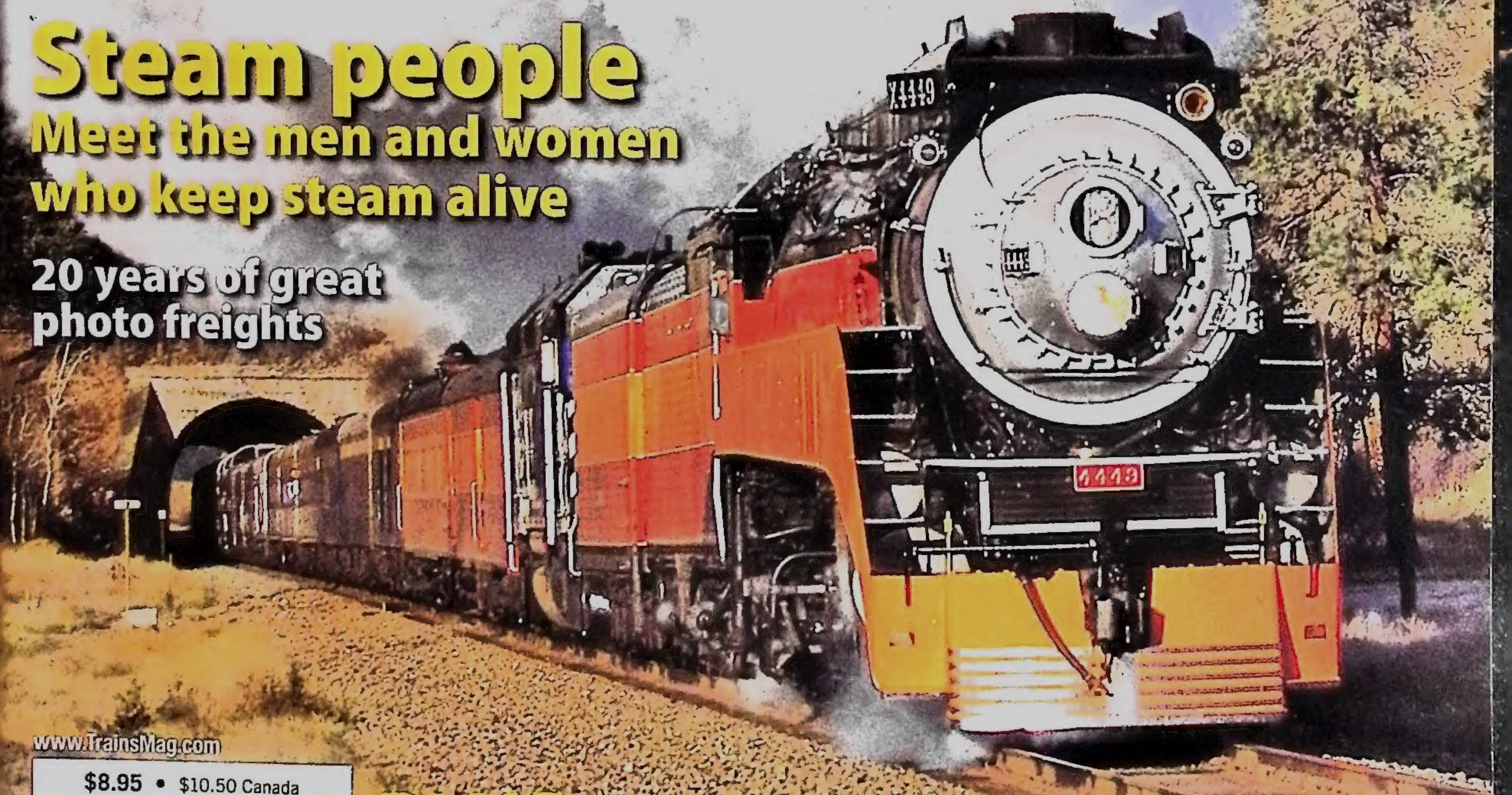
Complete listing of more than

190 operating U.S. steam locomotives

Steam people

Meet the men and women who keep steam alive

20 years of great photo freights



www.TrainsMag.com

$8.95 • $10.50 Canada

0 74470 46788 5 86

PLUS:

- Union Pacific's steam legacy
- Canadian steam takes to the main line
- Great Northerns: Fabulous 4-8-4s polish the rails

National Railway Historical Society

For those who have not experienced the smell and sound of an operating steam locomotive, your invitation awaits you!

We at the National Railway Historical Society know that our members have been fortunate to experience these rare steam excursions at our annual National Convention and local Chapter events throughout the United States.

NRHS · CONVENTION
LONESTAR RAILS
2008
FORT WORTH - DALLAS

Our 2008 National Convention
June 16-22 2008 is hosted by the
North Texas Chapter of the NRHS
www.lonestarrails2008.com

Please join us in our continuing effort to educate, preserve and create railroad history for future generations.

Online membership applications are welcome! *www.NRHS.com*

National Railway Historical Society
100 North 20th Street, 4th Floor, Philadelphia PA 19103-1443
Telephone: 215-557-6606

Students who wish to join the NRHS may take advantage of our special student membership rate.

STEAM TODAY

Contents

6 Saving 2719 — again
Can a reborn Soo Line Pacific get a second chance? • *Steve Glischinski*

16 A tool, not a toy
Here's why Union Pacific's steam train keeps running • *Peter A. Hansen*

24 Keepers of the flame
Meet some of the men and women who keep steam alive • *Peter A Hansen*

34 Great Northerns
Meet the five 4-8-4s that keep polishing the main lines • *Don Phillips*

42 Rebuild or reboiler?
The debate over preservation and operation continues • *Peter A. Hansen*

48 4449's secret language
In the cab, the players share a silent but important lexicon • *David Lustig*

50 Canadian steam!
Canadian Pacific 4-6-4 No. 2816 packs a public relations punch • *Jim Wrinn*

56 Have engine, will travel
The fun and frustrations of itinerant steam in the United States • *David Crosby*

62 20 years of steam photo specials
The master of the photo freight outing shares his favorite images • *John A. Craft*

72 Gallery
10 pages of great steam images from around the nation • *Assorted photographers*

82 QJs are gone, but China steams on
Industrial steam survivors still put on a show • *Russ Barber*

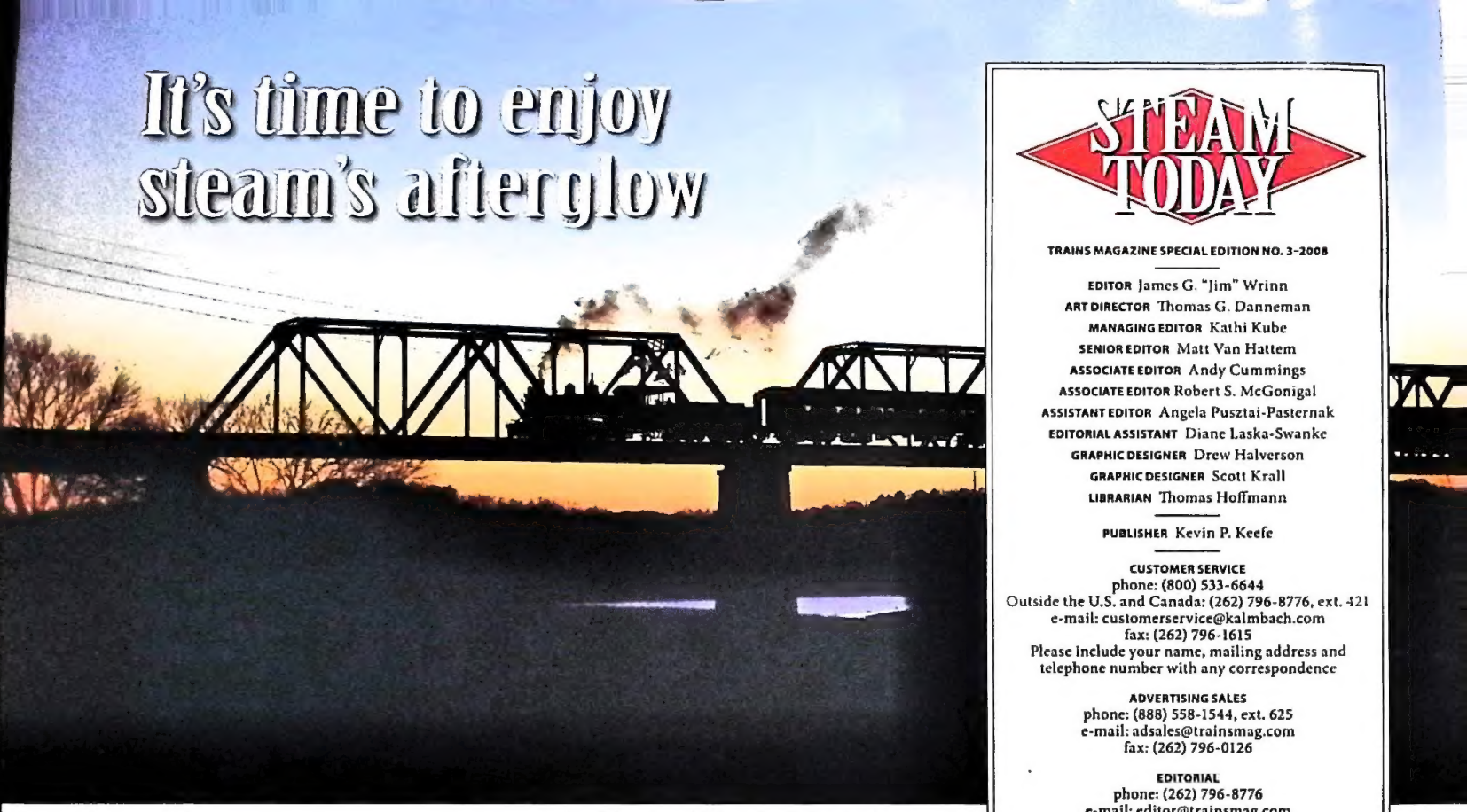
86 Today's steam stars
Analysis and the list of more than 190 operating locomotives in the U.S. • *Jim Wrinn*

On the cover

Blasting out of 896-foot-long Bonita (Mont.) Tunnel, Southern Pacific 4-8-4 No. 4449 makes an October 2004 visit to Montana Rail Link. Steve Tidwell

Contents page image: A driver on Union Pacific 4-6-6-4 No. 3985 David Hoge

It's time to enjoy steam's afterglow



Washington & Lincoln 2-8-0 203 soars over the Holston River near Knoxville, Tenn. (above). Editor Wrinn and 1925 (below). Above, John Edgell; below, Dave Crosby

Steam today is a rare, awe-inspiring remnant of American history that lives thanks to a handful of thoughtful Class I railroads, a smattering of tourist lines and museums, and a cadre of dedicated professionals and volunteers.

If you've ever stood trackside as a steam locomotive blasts by, if you've ever sat on the cushions in an open-window car or hung out in a Dutch door and watched and listened as an engine eats up mile after mile, or if you've ever been lucky enough to find your way into the cab of a hot locomotive, you'll know these are not just machines.

They're magic on steel wheels.

I know this personally — steam locomotives have been part of my life for more than 40 years, and I count among my most cherished experiences the times I've been fortunate enough to run my favorite, Graham County Railroad Shay 1925 (right).

In this special publication, we'll try to distill some of that magic and explain why, at the dawn of the 21st century, a handful of engines still thunder down the main line and why and where they still thrill visitors at museums and on tourist lines. You'll meet people responsible for keeping steam alive. We'll look at the technological and philosophical debates about old boilers. Throughout, we hope you'll get a better sense of preserved operating steam in the U.S.

If the title of Ron Ziel's early 1960s book, "The Twilight of Steam Locomotives," was apt, then we're living in the delightfully long afterglow. It's been almost 50 years since the end of mainline steam, and yet the fires still burn. From diminutive 0-4-0Ts to everyman's Consolidations and Mikados to the sole operating 4-6-6-4, these industrial age dinosaurs show us the might of one of the primary tools that made America great. Join me as we go in search of steam today.

Jim Wrinn

STEAM TODAY

TRAINS MAGAZINE SPECIAL EDITION NO. 3-2008

EDITOR James G. "Jim" Wrinn
ART DIRECTOR Thomas G. Danneman
MANAGING EDITOR Kathi Kube
SENIOR EDITOR Matt Van Hattem
ASSOCIATE EDITOR Andy Cummings
ASSOCIATE EDITOR Robert S. McGonigal
ASSISTANT EDITOR Angela Pusztai-Pasternak
EDITORIAL ASSISTANT Diane Laska-Swanke
GRAPHIC DESIGNER Drew Halverson
GRAPHIC DESIGNER Scott Krall
LIBRARIAN Thomas Hoffmann

PUBLISHER Kevin P. Keefe

CUSTOMER SERVICE
phone: (800) 533-6644
Outside the U.S. and Canada: (262) 796-8776, ext. 421
e-mail: customerservice@kalmbach.com
fax: (262) 796-1615
Please include your name, mailing address and telephone number with any correspondence

ADVERTISING SALES
phone: (888) 558-1544, ext. 625
e-mail: adsales@trainsmag.com
fax: (262) 796-0126

EDITORIAL
phone: (262) 796-8776
e-mail: editor@trainsmag.com
fax: (262) 798-6468
P.O. Box 1612
Waukesha, WI 53187-1612

SELLING TRAINS MAGAZINE OR PRODUCTS IN YOUR STORE:
phone: 800-558-1544, ext. 818
Outside U.S. and Canada: 262-796-8776, ext. 818
fax: 262-798-6592
email: tss@kalmbach.com
website: www.Retailers.Kalmbach.com

TRAINS HOME PAGE
www.TrainsMag.com

PRESIDENT Gerald B. Boettcher
VICE PRESIDENT, ADVERTISING Scott Stollberg
VICE PRESIDENT, MARKETING Daniel R. Lance
CORPORATE ART DIRECTOR Maureen M. Schimmel
MANAGING ART DIRECTOR Michael Soliday
CORPORATE CIRCULATION DIRECTOR Michael Barbee
GROUP CIRCULATION MANAGER Ken Meisinger
CIRCULATION COORDINATOR Marisa Cuellar
CIRCULATION COORDINATOR Valerie Jensen
SINGLE COPY SALES DIRECTOR Jerry Burstein
ADVERTISING SALES MANAGER Mike Yuhas
AD SALES REPRESENTATIVE Lori Schneider
AD SERVICES REPRESENTATIVE Annie Guldberg
PRODUCTION MANAGER Annette Wall
PRODUCTION COORDINATOR Diane Olp

FOUNDER
A.C. Kalmbach, 1910-1981

Single copy prices: $7.95 in U.S.; $9.50 in Canada and other foreign countries, payable in U.S. funds drawn on a U.S. bank. Canadian price includes GST. BN 12271 3209 RT. Printed in the U.S.A.

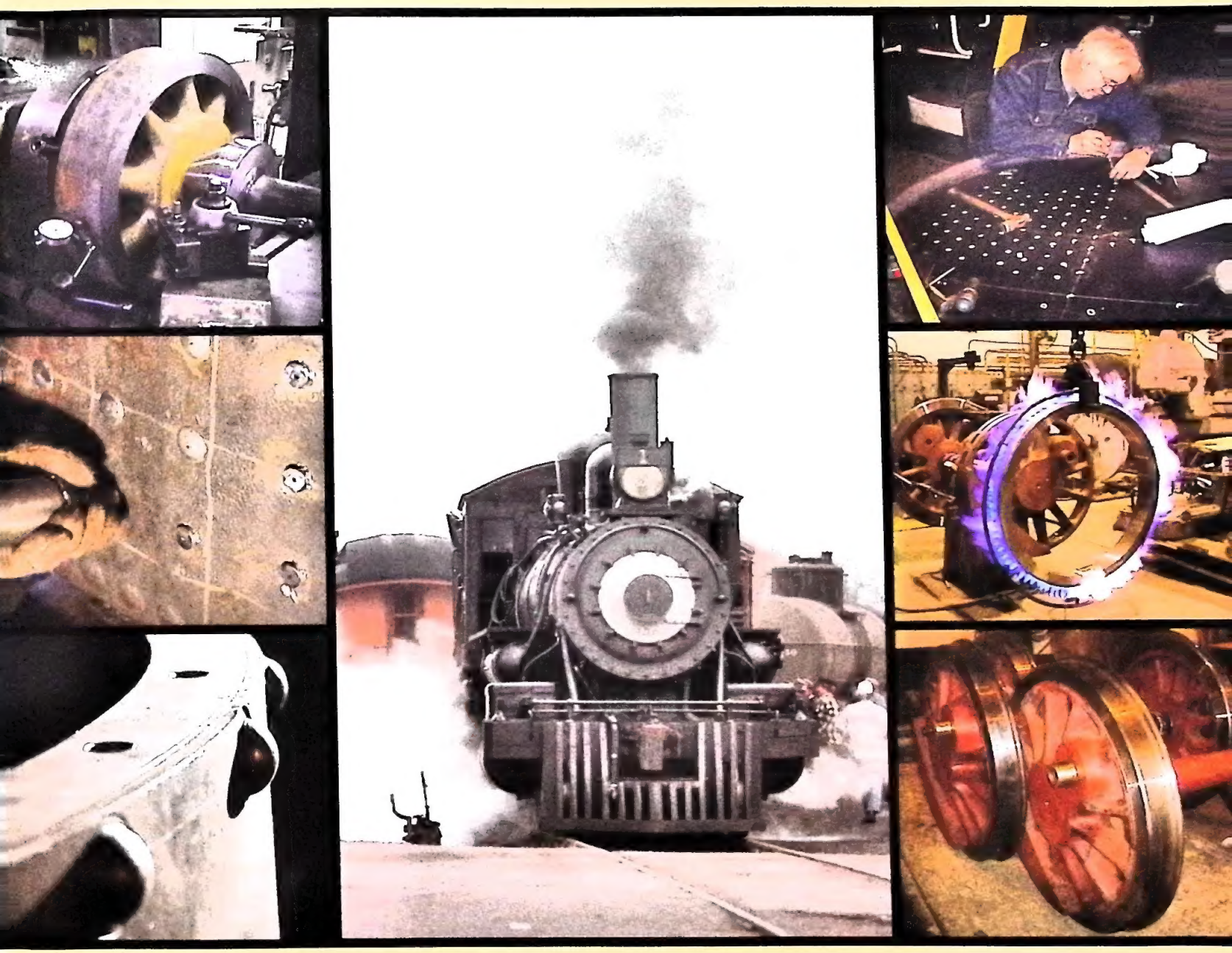
©2008 Kalmbach Publishing Co. All rights reserved. Any publication, reproduction, or use without express permission in writing of any text, illustration, or photographic content in any manner is prohibited except for inclusion of brief quotations when credit is given.

Trains

KALMBACH PUBLISHING CO.

ARRIVING SOON

At the Mid-Continent Railway Museum



Visitors to the Mid-Continent Railway Museum can wander down to the Engine House and witness a marvelous transformation taking place. A 1913 Ten-Wheeler, the Western Coal & Coke #1, is being reconstructed to take its place once again at the lead of the museum's passenger consist.

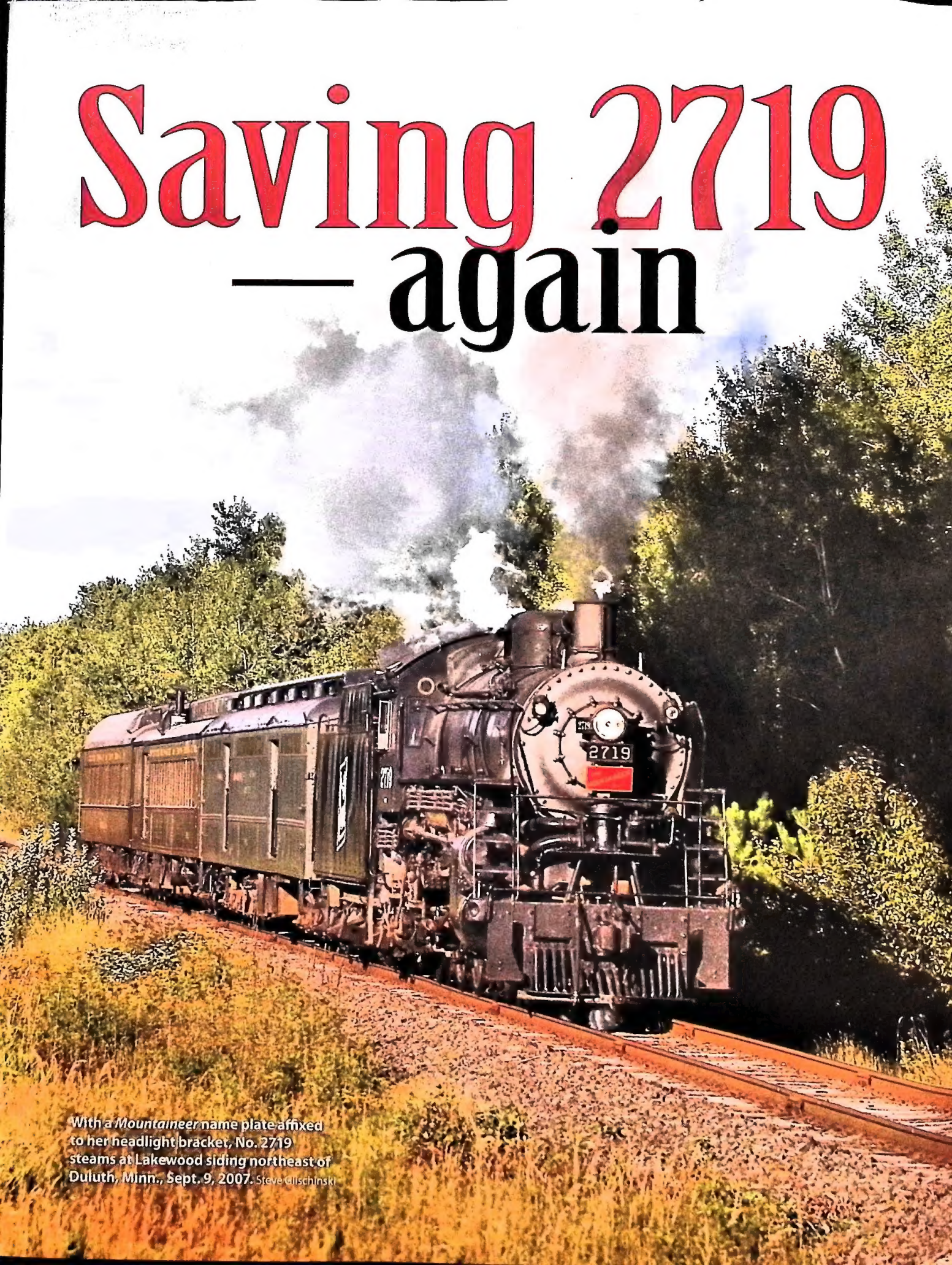
This project has required the combined talents of museum members, employees and contractors to guarantee more than just a repair. This is a restoration befitting Mid-Continent's reputation for historic accuracy in returning vintage railroad equipment to operating condition.

While everyone in steam operations works to comply with industry standards, at the Mid-Continent Railway Museum, we strive to do more. Working from the original specifications and drawings, we are undoing the quick fixes made by various owners over the years in order to achieve an authentic presentation for the benefit of museum guests.

You can follow our progress by visiting our website at www.midcontinent.org. Or come to North Freedom and take your own look inside the Engine House for that rare glimpse at history being made. The Golden Age of Railroading—its where we live.

Mid-Continent Railway Museum — at North Freedom, Wisconsin since 1963

Saving 2719 — again



With a *Mountaineer* name plate affixed to her headlight bracket, No. 2719 steams at Lakewood siding northeast of Duluth, Minn., Sept. 9, 2007. Steve Glischinski

Rescuing a Soo Line Pacific from a park was hard work, but then a series of events conspired to leave her cold again

by Steve Glischinski

Bridging the Big Sucker River near Palmers, Minn., on Sept. 9, 2007, Soo Line 4-6-2 No. 2719 looks like a working steam engine on the North Shore Scenic. Jim Gunning

It is a monumental task to save a steam locomotive from a park display and return it to the main line — a once-in-a-lifetime event. But to see an engine escape such a fate, flourish as a mainline excursion engine, and then go cold again for a different set of reasons is a tragedy. Thanks to a non-profit organization, a museum, and some dedicated individuals, Soo Line 4-6-2 No. 2719 is among the lucky locomotives that have been rescued twice.

The engine made a triumphant return to service in 1998 under the banner of the Locomotive & Tower Preservation Fund of Eau Claire, Wis. Restored in the Union Pacific roundhouse in nearby Altoona, Wis., the engine became the darling of fantrips on the regional railroad Wisconsin Central. But sale of the WC to Canadian National, rising liability insurance costs, and other factors sidelined her in 2001. This is the story of how she got a new home in 2007, a saga in which I had a personal involvement. But before we get to the story of her second salvation first, let's review her history.

The American Locomotive Co. built No. 2719 in 1923 in class H-23 for Minneapolis, St. Paul & Sault Ste. Marie, the Soo Line. Soo owned 62 Pacifics in the Soo/Wisconsin Central "H" class (Soo had leased the "original" WC in 1909). Soo primarily used the H-23s in passenger service between Chicago, Duluth, and Minneapolis, but the engines worked all over the system. Over the years, Soo equipped 2719 with a mechanical stoker, feedwater heater, and pump mounted on the pilot. The Pacific developed 36,833 lbs. of tractive effort, weighed 140 tons, and traveled 3 million miles in regular service.

Soo ran its last regular-service steam during the fall 1955 grain rush and put several locomotives in reserve. No. 2719 began pulling occasional excursions in 1957, but its most notable trip took place on Sunday, June 21, 1959, when it pulled the last steam-powered train on the Soo, a round trip from Minneapolis to Ladysmith, Wis., for the Minnesota Railfans Association. In May 1960, Soo donated the engine to Eau Claire, which placed it in Carson Park; it was one of seven Soo 4-6-2s preserved.

In 1977, No. 2719 came under the care of the Chippewa Valley Railroad Association, a live steam railway established in Carson Park. About 1989, supporters established the non-profit "Tower Preservation Fund" to preserve and move the Chicago & North Western's Eau Claire interlocking tower to Carson Park and, in March 1994, they amended the by-laws of the fund to include 2719 and changed the name to Locomotive & Tower Preservation Fund. In an innovative approach to steam restoration funding, the group tapped into money from a federal transportation act (formally, the Federal Intermodal Surface Transportation Efficiency Act, better known by its acronym, ISTEA) through the city of Eau Claire. Restoration cost $460,728. Wisconsin, through the ISTEA program, provided 80 percent, and over for the next two years, the fund raised the additional $92,145. The work, under Diversified Rail Services' Gary Bensman and volunteers, took place in the Altoona roundhouse after 2719 was moved there on Dec. 16, 1996.

Less than two years later, on July 27, 1998, the engine moved under power for the first time since 1959, on a yard lead with restored Soo 2-8-2 No. 1003. Three days

Cumbres & Toltec
SCENIC RAILROAD

Built in 1880, the Cumbres & Toltec Scenic Railroad is a proud remnant of the spirit that won the West. Its path, through steep passes and deep gorges is the stuff of adventure novels.
HISTORY. SCENERY. MACHINERY.

1-888-CUMBRES • cumbrestoltec.com
Chama, NM & Antonito, CO • May 24 – Oct. 19 2008

later, the two Soo engines traveled together to Osceola, Wis., over Wisconsin Central to participate in the Minnesota Transportation Museum's "Steam Fest."

Between 1998 and 2001, the fund put together several successful trips, mainly over the WC. Then several events conspired to prevent 2719 from operating. When Canadian National acquired WC in autumn 2001, the cost of running trips rose drastically. While technically not banning excursions, CN required a much higher level of liability insurance coverage ($50 million) and charged for each mile the engine ran. WC had allowed the engine run for only the cost of insurance. Insurance rates escalated after the Sept. 11, 2001, terrorist attacks so, in effect, the fund could no longer sell trips at a price passengers would pay. With no place to run, the fund agreed in 2004 to move the engine to Montana for operations, but that deal fell through. Then Union Pacific announced its intent to tear down the Altoona roundhouse and, without ceremony, on April 3, 2004, No. 2719 was stored in the yard. She had no place to run, and no place to call home. Short of going back to the park, she was a homeless locomotive.

This in when I stepped in. Knowing that only 160 miles to the north was a place with more than 25 miles of mainline track that 2719 could run on anytime, I began to work to bring two groups and one fine Pacific together for the benefit of all.

For several years I had helped put together an annual "Railfan Weekend" for Duluth's Lake Superior Railroad Museum, whose collection is recognized as one of the best in the country. However, the museum had lacked an operating steam locomotive since withdrawing Duluth & Northern Minnesota 2-8-2 No. 14 from service in October

Classic Steam Recordings and Classic Rail Art

The supreme collection for the true steam rail fan. Remastered from the original materials in 24-bit oversampling, deluxe audio, deluxe multi-page picture insert with most selections.

❑ Steam on the Standard Railroad of the World - Vol. 1 $15.00
- Vol. 2 $15.00
❑ Rods Wheels and Whistles $20
❑ On Time $20
Shipping for up to 4 items: $3.00 first class mail.

semaphore

Sound samples and more great titles at SemaphoreRecords.com

Complete gallery of rail prints and prices at LerroProductions.com / railroadart.html

All products: send check or money orders to:
PO Box 22304, Alexandria, VA 22304
All credit card sales: 610-999-9809

MasterCard VISA DISCOVER

No. 2719 hurries along the North Shore Scenic with three cars near French River, Minn., on Sept. 9, 2007. Jim Gunning

1998. LSRM also operates the North Shore Scenic Railroad between Duluth and Two Harbors, the former Duluth, Missabe & Iron Range line that was built to heavy-duty standards and could easily handle the Pacific.

The 2719 shares a connection to the Twin Ports area of Superior, Wis., and Duluth. When it was new, it was a regular on Soo's passenger routes, including to Duluth-Superior. After 4-8-2s replaced the Pacifics on main lines, the H-class engines continued to operate out Soo's own Duluth depot a few blocks from today's museum, running on locals to the Twin Cities and to Thief River Falls, Minn. In 2004, this seemed like the perfect move: Get No. 2719 to the Lake Superior Railroad Museum, where it could be displayed and also operate.

Randy Lambertus, president of the fund, and Ken Buhler, the museum's executive director, agreed to discuss this opportunity. On March 16, 2005, they, museum board members, and I met in Eau Claire to talk about saving 2719 — again. Over the next few months the two groups negotiated a contract, which covers operations and crew assignments, and sets up a special fund to pay for 2719's next major overhaul, due in 2011. Next came the task of preparing and moving the locomotive.

On Oct. 19, 2006, representatives of the UP (including UP steam program boss Steve Lee), the Federal Railroad Administration, and the two railroad preservation groups met to discuss the logistics of the movement from Altoona to Duluth. One UP official said, "If all goes well with connections, this move could be completed in as little as 18 hours." Lee quipped in reply, "Those 18

Little River Railroad

Steam Train Rides
Cold Water, MI
Open Weekends
www.littleriverrailroad.com
260-316-0529

Also... Now Available 8x10 Prints Framed and Unframed!

Art Olds Lithographs

MASON-BOGIE ENGINE #24 (1 of 44 Different Prints)

www.steamtraincollectibles.com

Check our NEW prices on our web site!

Edgar Kruckeberg
P.O. Box 722 Montrose, CO 81402
Phone/Fax:
(970) 252-9140

Fine Quality Brass Models Since 1999

RY

Please write or call:
Rich Yoder Models
7 Edgedale Court
Wyomissing, PA
19610-1913
Phone: 610-678-2834
(after 6 p.m. EST and Tuesday)

Hopper cars for the EBT and other roads. Painted-unlettered or factory finished $425 *or 3 for* $1,200.

1:20.3 SCALE
East Broad Top
Mikado & Triple Hoppers

Engine factory painted, DCC and sound ready. $2,995

30 & 40 ton hoppers in stock

www.richyodermodels.com

The Durango & Silverton in Widescreen!

Enjoy 2 great steam programs, available in widescreen!

Winter Freight Trains on the Durango & Silverton

Enjoy fantastic steam action with winter freight photo charters on Colorado's Durango & Silverton. You'll thrill to many great runbys along the Animas River covering 4 days of special freight operations. The weather ranges from beautiful Colorado blue sky to heavy snow falling! The action is fantastic, and if you like steam, then this is one program that you just can't miss! DVD includes chapter menus and the option to turn the narration on or off. 75 minutes including bonus footage. Widescreen only.
Item #WFDS $24.95

Ride a Freight Train on the Durango & Silverton

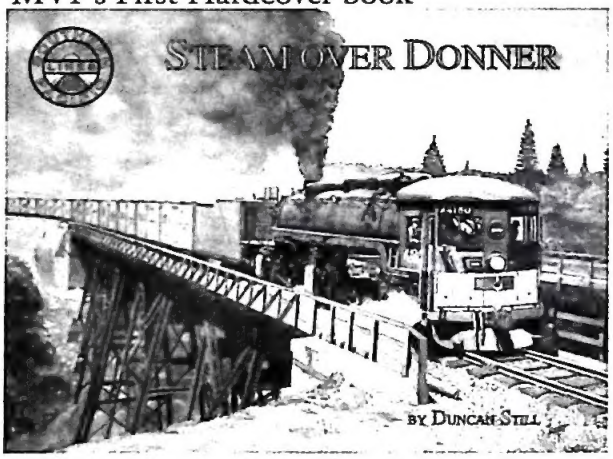
Have you ever wanted to ride the front of a caboose behind a real steam powered freight? Now you can! You're on the front platform of caboose 0505 as you watch a short freight train wind along the Durango & Silverton between Hermosa to past Tank Creek. Shot in February, the scenery is lovely with blue skies, and deepening snow as we head north. You'll hear lots of stack talk as you sit back and relax to the freight winding ahead of you through the mountains with steam on the point! DVD includes chapter menus and the option to turn the narration on or off. 80 minutes.
Item #RFTDS $24.95

SPECIAL! Buy both together for only $44.90!
Item #DSSET Indiana residents add 6% sales tax.

Order online at www.A-Trains.com
Send Mail orders to:
Railway Productions 8063 Madison Ave. #243 Indianapolis, IN 46227
Shipping: $0 to $29.95 – $5.00 | $29.95 to $44.95 – $6.00 | $44.95 and

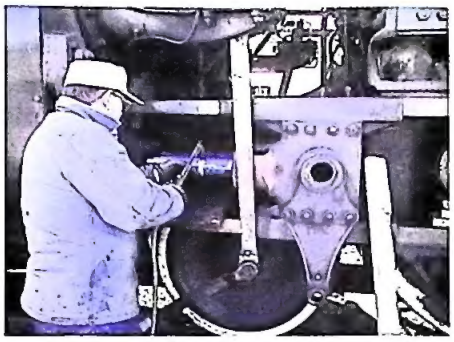
North Missouri's Finest Lodging Experience
Free Train Observation Point
of BNSF Mainline 80+ Trains every day!

Not just another hotel...
a fun and relaxing destination for everyone!
Easy Access via Amtrak
Amish Country Tours | Free Hotel Shuttle | Luxurious Themed Suites
Heated Indoor Pool | Meeting Room | Free High Speed Internet
Depot Inn & Suites
1245 North Brown, La Plata, MO | www.DepotInnAndSuites.com | 888.814.3669

Now Available from Monte Vista Publishing LLC
MVP's First Hardcover book


Steam over Donner by Duncan Still
$64.95
176 pages
Hardbound
a chronological and pictorial history of Donner Pass
b&w photos late '30s to early '50s, + train & loco data, charts and perhaps even a surprise or two!!
We can now accept all major credit cards
call (909) 374-1989
www.montevistapublishing.com
available direct or from your favorite railroad book store or hobby shop
CA. res. please include $5.36 tax
2830 North Ave. #C5B-410 Grand Junction, Co. 81501-5369 please include $10 s&h

HISTORIC MACHINERY SERVICES CORPORATION
33 Years Experience • Museum Quality Restoration and Conservation
- Repairs to Operating Equipment
- Extensive Rebuilding or Minor Repairs
- Steam Locomotives and Steam Engines
- Industrial Machinery - metal and woodworking
- Portable Crank Pin Turning
- King & Paxton-Mitchell Rod & Valve Stem Packing
- Boiler Work:
  - Form 4 inspections and calculations
  - Repairs and Alterations
  - ASME certified welders
- Part Replication:
  - From your drawing or old part
  - Injector Nozzles
  - Lever Operated Alemite Crank Pin Grease Gun
  - Washout Plugs, Bronze
  - SB-61 Pressure Part Bronze Castings
P.O. Box 856 • Springville, Alabama • SHOP PHONE AND FAX (256) 538-6938
www.HistoricMachineryServices.com



A worker cuts the piston rod to enable No. 2719 to be moved to Duluth, Minn., where she could steam again. Dave Peterson

hours are not necessarily contiguous." Lee, of course, turned out to be a prophet.

The fund asked former president Dave Peterson to coordinate preparations to move the engine, along with Bob Boettcher and Lambertus. "Our desire was to move the locomotive under low steam [pressure], which allows lubrication of the pistons and valves," Peterson says. "Since we have moved this way on the Union Pacific, we thought this was the best and simplest means."

To prep the locomotive for the move, the crew removed and repaired a bent stoker screw, performed a hydrostatic test on the boiler, and checked the drawbar, safety bars, and pins. Complicating the work was the fact that it was all done outside. The volunteers lacked proper tools, cranes, and anything else that would have been helpful, but they at least had electricity from a nearby yard building. Later in the summer, the group learned from Union Pacific that the locomotive would move dead-in-tow.

UP intended to move the locomotive at a restricted speed of 40 miles per hour, with side rods remaining in place. This required the removal of the pistons since they could not be lubricated without live steam. "None of us were enthused to remove the pistons and piston valves, especially outdoors with our limited tools," Peterson says.

Nonetheless, we removed the pistons and valves over the next six weeks by disconnecting the main rods so the pistons could rest in the cylinders. In order to remove the wrist pins on the crossheads, we moved the locomotive back and forth several times. Unfortunately, the left side piston rod did not come free from the crosshead after two attempts (the crosshead had "walked" on the rod). With time running out as winter approached, and after consulting with Scott Lindsay of Steam Operations, Inc., volunteers were forced to cut the piston rod.

Finally, the then-83-year-old 2719 was ready to move. Volunteers, including 90-year-old Marv Nauman, spent a day lubricating the engine. UP moved the locomotive to the wye at Yukon Junction in Eau Claire so it would be towed with the front of the

GENESIS

Classic Power. Classic Model.

No mainline steam locomotive is more venerable than the mighty Union Pacific FEF-3, the last of a long, respected line of UP 4-8-4s. In fact, 844 has been in constant operation since it first rolled off the assembly line in 1944—the only Class 1 steam engine to have never been retired from active service.

For the world's finest model representations of the FEF-3 and its predecessor, the FEF-2, turn to Genesis. Each HO model represents an accurate reproduction of a specific locomotive during its service with the UP. Details abound, no matter which version you choose. Single stack or double, original smokebox or current version, with smoke lifters or without, the variations are many. Of course, the performance matches the beauty, with a can motor, turned brass flywheels and factory-installed dual-mode DC/DCC soundboard with two speakers.

To see the entire Genesis line of UP FEF locomotives in more detail, check online at www.Athearn.com.

AVAILABLE VERSIONS — **WITH/WITHOUT SOUND. MSRP $399.98/$299.98**

FEF-3 Union Pacific #844 (shown)	G9205/G9235
FEF-2 Union Pacific #820 Black	G9206/G9236
FEF-2 Union Pacific #823 Gray	G9207/G9237
FEF-3 Union Pacific #836 Gray, Smoke Lifters	G9208/G9238
FEF-3 Union Pacific #838 Black, Smoke Lifters	G9209/G9239

HORIZON © 2008 Horizon Hobby, Inc. Genesis® products are distributed exclusively by Horizon Hobby, Inc. For additional information or your nearest Genesis dealer, call toll free 877-504-0233. Union Pacific trademarks used under license.

CONTEMPORARY, VINTAGE, STANDARD GAUGE, NARROW GAUGE:
STEAM VARIETY AND ACTION FROM GSVP!

EASTERN STEAM:

1225 FREIGHT SPECIAL - Pere Marquette 2-8-4 number 1225 operates on several freight specials that are the first-ever photo trains. Several 1940 and 1950's period freight cars are used, plus the engine is put back to the steam-era appearance. DVD 98 minutes. $29.95

GREAT STEAM TRAINS COMBO - A combination of two one-hour programs: Great Steam Trains Vol 1 and Vol 2, we see four locomotive segments in each program, and a wealth of steam variety. Approx 2 hours. Copyright 2007. DVD $29.95

2765 ON THE C&O - In 1993, Nickel Plate Road 2-8-4 #765 was transformed with a few modifications into a C&O 2-8-4. You'll see a round-trip to Russell, Kentucky from Cincinnati, including a Cab ride at 60 MPH, and runs along the New River in West Virginia. DVD 1 Hour $29.95

4501 - 25TH ANNIVERSARY - Former Southern Railway 2-8-2 number 4501 is the star of this program as we begin with historic film footage of 4501 as engine 12 on the Kentucky and Tennessee Railroad in the early 1960s. DVD $29.95

NORFOLK SOUTHERN STEAM VOL 1 - 4-8-4 Class J #611 and 2-6-6-4 #1218 on former Norfolk and Western trackage. This "Pure N&W" tape covers the system from Roanoke to Cincinnati and north from Portsmouth on the Columbus line. DVD 60 minutes $29.95

NORFOLK SOUTHERN STEAM VOL 2 - Lines and engines other than just former Norfolk and Western livery. One of the highlights is the four day Independence Limited from Bellevue to Roanoke with Nickel Plate Road #587 2-8-2 double-heading with N&W 611. DVD 60 minutes $29.95

NORFOLK SOUTHERN STEAM FREIGHTS A very unique video showing some of the NS engines on freight trips. DVD 45 minutes $29.95

Special: Norfolk Southern Steam Collection - NS Steam Volume 1, NS Steam Volume 2 and NS Steam Freights above - all 3 for only $74.95

STEAM IN HUNTINGTON - The feature attraction of the 1991 NRHS convention in Huntington, West Virginia,, you'll enjoy the incredible sight of Pere Marquette 2-8-4 #1225 on a passenger train, running pilot to pilot with a similar engine, Nickel Plate 2-8-4 #765. In addition there are two trips with N&W 1218, and other steam trips. DVD 90 minutes $29.95

OHIO STEAM SPECTACULAR - In 2002, the Ohio Central Railroad, sponsored some photo specials that were the first for former Grand Trunk Railway 4-8-4 #6325. In June, the big 4-8-4 sported the Grand Trunk front Number Plates, and authentic logo on the tender sides, for the first time in over 40 years. Approx 90 Minutes. DVD $29.95

6325 RETURN TO STEAM - Former Grand Trunk Western 4-8-4 is restored to operating condition for owner Ohio Central in the fall of 2001. This video features two of the test runs in September, and 3 fall excursions including the first and last of the season. DVD $29.95

MEMORIES OF N&W 611 - In 1994 the Norfolk Southern steam program was terminated and Class J, 4-8-4 # 611 may never operate again. Some of the last runs of this magnificent steam locomotive through southern Ohio and Northern Kentucky between 1992 and 1994. DVD $29.95

WESTERN STEAM:

SP 4449 - THE DAYLIGHT - Southern Pacific Class GS-4 #4449 stars in this 1989 video presentation. The famous red, orange, and black 4-8-4 makes a run to Los Angeles for the Los Angeles Union Passenger Terminal celebration. We follow it from Portland to LA, and side-by-side with 8444, plus continue north with 4449. DVD 80 minutes $29.95

GEARED DOUBLEHEADER - Washington State's Mt. Rainier Scenic Railroad features the two rarest types of geared steam locomotives: Heisler #90, a 90-ton, 3-truck locomotive built in 1930 is joined by the newly restored Climax #10. DVD 45 minutes $24.95

STEAM IN ST LOUIS - All the excitement of four big mainline steam locomotives as they operate for the 1990 NRHS Convention in St. Louis, Missouri. Features mainline steam with N&W 1218, UP 844, Cotton Belt 819, and Frisco 1522. DVD $29.95

UNION PACIFIC STEAM VOL 1 - Union Pacific 4-8-4 #8444, and Challenger type articulated 4-6-6-4 #3985. First we take you to Cheyenne for a 1987 and 1988 Cheyenne to Laramie runs of 3985 over Sherman Hill. Cab rides in both engines. DVD 90 minutes $29.95

UNION PACIFIC STEAM VOL 2 - We begin in Cheyenne as 8444 has received its original number 844 (a UP diesel was retired with 844) and is set for a July 1989 outing. 844 pulls regular freight trains 500 miles to Omaha and back, pulling 4 different freight consists. DVD 60 minutes $24.95

Special: Union Pacific Steam Volume 1 and 2 (regular price $69.90) Both Videos $49.95

STEAM IN THE WEST - There is mainline action with doubleheading of Union Pacific #844 and 3985, plus 2 excursions from Salt Lake City with 3985. Also enjoy Engine #5 at Mt. Rainier Scenic Railroad, plus narrow gauge action on the Cumbres and Toltec, and the Durango and Silverton in Colorado and New Mexico. DVD 90 minutes $29.95

SANTE FE 3751 - LOS ANGELES TO CHICAGO - In September, 1992, Santa Fe 4-8-4 number 3751 makes an historic trip from Los Angeles, California to Chicago, Illinois following the transcontinental mainline 2300 miles. DVD 90 minutes $29.95

NARROW GAUGE STEAM:

ROCKY MOUNTAIN SNOWPLOW - 1997 operation of the rotary OY with 3 locomotives. It's early May 1997, and Colorado and New Mexico's famous Cumbres and Toltec Scenic Railroad is still closed with huge drifts of snow blocking the tracks for several miles! DVD 90 minutes $29.95

FIRST TRAIN TO TOLTEC - Behind the scenes as the Cumbres & Toltec Scenic Railroad opens a blockaded railroad, and then we charter a special freight train! We were invited along on a special work train dispatched to clear a boulder that sits squarely on the tracks. A crew has blasted the rock with dynamite then the work train with its loader is used to clear the rubble off the tracks so repairs can be made. This is very unusual, and in remote Colorado high country. DVD 60 minutes $29.95

Special Package: Both First Train to Toltec and Rocky Mountain Snowplow (regular price $59.90) $44.95.

CHASED BY A STEAM TRAIN VOL1 - PASSENGER TRAIN THROUGH THE ROCKIES - Take a unique journey on the rails of the Cumbres & Toltec Scenic Railroad in the Rocky Mountains, as we view a steam passenger train from in front of the train from Chama, New Mexico to Cumbres, Colorado. DVD 90 minutes $24.95

CHASED BY A STEAM TRAIN VOL 2 - FREIGHT TRAIN IN THE ROCKIES - This time engine #484 (a 2-8-2) pulls a freight train of 10 cars and caboose. This is maximum tonnage for this locomotive on this piece of railroad, and 484 puts on quite a show. DVD 90 minutes $24.95

Special: Purchase both Chased By A Steam Trains DVDs (Vol 1 & Vol 2) for $44.95

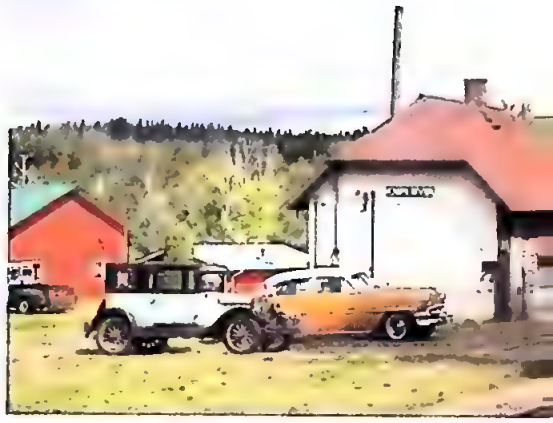
RIO GRANDE STEAM FREIGHTS - Photographer John Craft, organized a series of 5 trips over a one-week period that was the first time such trips were operated since the last Rio Grande freights of 1968. Trains with pusher engines, mid-train helpers, and 3-engine trains make this a special video! DVD 120 minutes $34.95

STEAM ROTARY - This 1991 video depicts snow-clearing operations on the former Rio Grande Narrow Gauge (now Cumbres & Toltec Scenic RR) in northern New Mexico and Colorado. The rotary OY is steam operated, but can only power a blade, thus locomotives are required to push it ahead to clear drifts as high as the top of the Rotary. DVD 90 minutes $29.95

Complete descriptions & many more STEAM, VINTAGE STEAM, and DIESEL programs online:
http://www.gregscholl video. com
Latest newsletter free with orders or send $2 cash.

Shipping: U.S.: add $5 for Total Order. 1 or 2 items sent **1st Class**. 3 or more sent Media Mail-still only $5. **Canadian:** $5 for 1st. $2 ea add! **OVERSEAS:** $7 1st, $3 ea. add. AIRMAIL! Ohio res. add 6.5% sales tax. All prices $US. Order by phone, mail, fax, or secure web site.

VISA GSVP **GREG SCHOLL VIDEO PRODUCTIONS**
Professional Videos • Prompt Service • Since 1984
PO Box 123, Dept. ST1, BATAVIA, OHIO 45103
PHONE: 513-732-0660 • FAX: 513-732-0666



engine first on the Canadian National leg of the move. Specifically, UP used its trackage rights over CN (ex-Wisconsin Central) from Necedah to Superior, Wis., for the move. On Dec. 7, 2006, the 2719 rolled out of Altoona on UP local 82 headed to Adams, Wis. The 2719 experienced no problems and was tied up in Adams for several days while paperwork with CN was cleared up. The move resumed on a UP freight on Sunday, Dec. 15 (it was scheduled on a Sunday since CN preferred to make the move on a light traffic day). After arrival in Superior, BNSF inspected the consist and made a special move to forward the engine into Duluth, and it arrived at the museum around 7:30 p.m.

As summer 2007 approached, work on 2719 picked up under the supervision of Museum Curator Tom Gannon. One of the biggest hurdles was obtaining a new piston rod. The museum considered trying to obtain a rod from another Soo display engine, or having a new rod fabricated — but bids came in at several thousand dollars each. By chance, museum member Allen Anway discussed the predicament with Bob Cragin, owner of Cragin Machine Shop in Superior. Cragin offered to fabricate a new rod at a reasonable cost. Cragin roughed out the rod, brought it to Duluth to make sure it fit properly, and then did final machining. "They went all out to make sure we made the test run," Gannon says. As August approached, the new rod was fitted and, by late in the month, the engine was ready for testing.

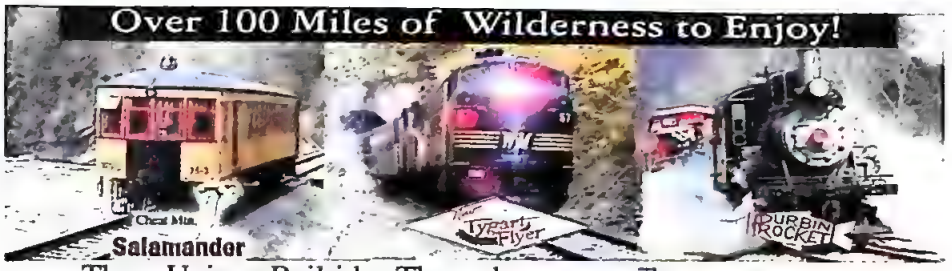
On Aug. 24, Steve Sandberg and Ed Selinsky of the Minneapolis-based Friends of Milwaukee 261 and Bill Stetler of Canadian Pacific's steam program [pages 50-55] assisted in firing up the Pacific and troubleshooting various problems that popped up

Antique cars and goldenrods greet No. 2719 on a photo outing at Knife River, Minn., on Sept. 9, 2007. Jim Gunning

after years of storage. The reawakening was slow. As the engine returned to steam after four years of inactivity, nothing worked, other than the dynamo! After the machinery got a good cleaning, though, the appliances began to work again. Workers moved the engine around the museum trackage, and then banked the fire for the night.

On Aug. 25, the 2719 led the regular Duluth-to-Two Harbors train of the North Shore Scenic, surprising patrons who were expecting diesel power. The locomotive pulled a short train consisting of an ex-Chicago & North Western bi-level commuter coach, a power boxcar, and Soo Line caboose No. 1. At Two Harbors, the engine turned on the CN/Missabe Road wye for the return to Duluth. The engine returned without encountering any major problems.

Soo 2719 became the star attraction of the 2007 Railfan Weekend, during which it pulled a three-car heavyweight consist intended to replicate a Soo Line local of the 1950s. With the addition of a steam locomotive, photographers from California, Florida, Maine, Oregon, Texas, and even Vancouver, B.C., came to Duluth. Engineers Frank Christopherson and Bob Oswald, and firemen Gary Kollath and Max Hofman succeeded in generating voluminous clouds of black smoke at each runby, delighting the photographers and lineside residents. During two runbys, we placed an original sign from Soo's *Mountaineer* under the 2719's headlight. The H-class engines had worn the signs in the 1920s when they pulled the Soo portion of the Chicago-Vancouver *Mountaineer* as far as Portal, N.D.



Three Unique Railrides Through
Everchanging Mountain Scenery
www.mountainrail.com

The Wild Heart of West Virginia

Durbin • Cheat Bridge • Elkins • Belington

1-877-MTN-RAIL (686-7245)

24th year

2008 RAILROAD TOURS

38 Exciting Tours Being Offered

Trains Unlimited, Tours has just posted the 2008 railroad Tours on the Web site. This will be our most exciting year yet, with 38 tours and excursions scheduled to cater to a wide variety of interests. ***Visit our web site now for all of the details!***

12 PRIVATE RAIL CAR TOURS & EXCURSIONS IN WESTERN USA

6 RAILFAN TOURS IN COLORADO INCLUDING LA VETA PASS – CUMBRES – DURANGO – GEORGETOWN LOOP

5 TOURS FOR RAILFANS & TOURIST IN ARIZONA – MARYLAND – WEST VIRGINIA – ALASKA – IDAHO – OREGON

3 TOURS IN NEW ENGLAND AND UPSTATE NEW YORK

12 INTERNATIONAL TOURS INCLUDING: SWITZERLAND – GERMANY – ENGLAND – MEXICO – TIBET – CHINA – PERU – BOLIVIA – CHILE – POLAND – ERITREA – JAPAN – NEW ZEALAND – CANADA

1-800 359-4870 USA 1-800 752-1836 CANADA (530) 836-1745 Fax (530) 836-1748

TRAINS UNLIMITED, TOURS LLC

1105 Terminal Way, Suite 111 • Reno, NV 89502 USA
E-mail: tut@PSLN.com
Visit our Web site: www.trainsunlimitedtours.com

SOUNDS OF STEAM RAILROADING

VOLUMES 1-6 • THE COMPLETE ORIGINAL SERIES

Digitally Restored and Remastered. A Five CD Boxed Set

O. Winston Link's remarkable railroad recordings, "Sounds of Steam Railroading," regarded as one of the icons of American sound preservation, are available again, painstakingly restored and digitally remastered on CD. The complete set comprises six volumes. Five of them were recorded onboard Norfolk and Western trains, or at trackside, and were originally released as LP records. The sixth volume is a rarely heard 45 rpm recording Link made of Civil War locomotive, "General," when it was restored and put in operation in 1962.

"Sounds of Steam Railroading" is now available as a handsome, limited edition collectors boxed set of five CDs, each with a comprehensive 28-page booklet, complete with the original LP liner notes and illustrated with dozens of photos by the late O. Winston Link, some never before published.

$120 plus $12.95 Priority S/H to U.S. addresses

Check, Money Order & PayPal • Virginia Residents Add 5% Sales Tax

O. Winston Link Railway Productions
46643 Winterset Court • Potomac Falls, VA • 20165-7700
Telephone: (703) 433-5889 • Fax: (703) 689-0066
www.owinstonlinkrailwayproductions.com

WORLD STEAM ON DVD

Darjeeling-Himalayan, Viseu de Sus (Romanian logging), Harz (Germany), Jingpeng (Chinese QJ's) Scotland, Wales (Ffestiniog, Welsh Highland Garratts) Nepal, Tipong (India) Cumbres & Toltec, Durango & Silverton, Nevada Northern, Heber, East Broad Top.

Check out our web site at

www.traintapes.com

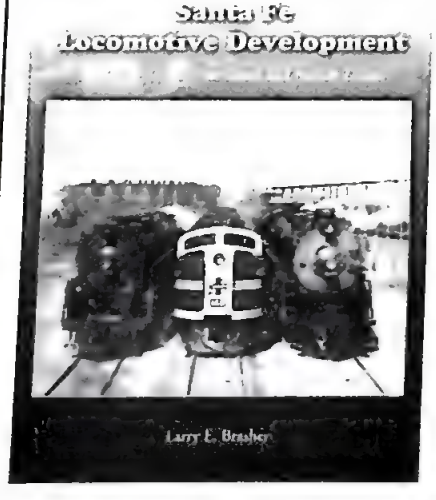
Highball Productions, Inc
PO Box 90046
Tucson AZ 85752
USA
1-800-345-6985

K-36 CAB RIDE

Ride the cab of a Durango & Silverton K-36 2-8-2. In addition to the crew at work you'll see some run-by's, and the magnificent scenery with some awesome stack talk!

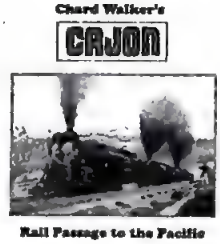
WIDESCREEN DVD ONLY 90 mins KCRW $24.95

Great Books About Steam Locomotives



Santa Fe Locomotive Development, **Larry E. Brasher**
The development of Santa Fe steam locomotives, from the first ones built to the Santa Fe's own specifications in 1880, to the "supreme steam" of the late 1930s, is explored in detail in this book. Also part of the story is the pioneering role of Santa Fe in development of early diesel locomotives, from the earliest demonstrators onward. Any historian or modeler interested in the Santa Fe will want to own this fine volume. 304 pages, 291 photos, graphics, bibliography, index. **Price: $65**

Chard Walker's Cajon, **Chard L. Walker**
A full history of the construction and particularly the operation of the line over Cajon Pass. Included are classic operations of Santa Fe and Union Pacific, and also Southern Pacific's new line. Written by the long-time operator at Summit. A limited reprint of this classic book. **Price: $60**



Southern Pacific Daylight Locomotives,
Robert J. Church
All classes of 4-8-4 steam locomotives of the SP, assigned to many of SP's premier trains, are covered in detail, from construction, to tests, operations, routes and usage across the system, and maintenance. A definitive and complete history of these fine engines. 434 pages, 731 photos. **Price: $70**

Free shipping, domestic individual orders
($20 shipping for foreign individual orders, Canada $15)
California residents add 7.75% sales tax per book.

SIGNATURE PRESS

Order direct: to 11508 Green Rd, Wilton, CA 95693,
or order securely at our site, **www.signaturepress.com,**
or place your order by telephone at **1-800-305-7942**
DEALER INQUIRIES INVITED
see our web site for information on all our books

No. 2719 lives again thanks to two preservation groups and hardworking volunteers and professionals. Steve Glischinski

The Pacific followed up the Railfan Weekend outings the following four weekends on fall color specials along the Lake Superior shore. Despite all the years of inactivity, 2719 performed flawlessly with the exception of the stoker, which tended to jam with coal, a problem to be addressed in winter 2007-2008.

Lake Superior Railroad Museum's Buhler says the revival of 2719 is a huge boost. "It has been a longtime goal of the museum to get a steam engine operating on the North Shore Scenic again, and having 2719 running on the railroad has been our biggest success. It's been a treat to watch. It was the talk of Duluth in the fall of 2007. There wasn't a day we ran when there weren't crowds at every grade crossing and when I'd get phone calls from people telling me how great it was to see a steam locomotive again." As the engine ran the last lap into the museum on Sept. 9, I had a feeling of relief that the trips had gone successfully, mixed with a dose of gratitude. While I had come up with the idea for moving the engine, it would never have happened without all the hard work and sacrifice of the staff and volunteers from LSRM and the Locomotive & Tower Preservation Fund.

They were the heroes of steam, the ones who had, indeed saved the 2719 — again.

In summer 2008, Lake Superior Railroad Museum plans to run No. 2719 on four weekends, tentatively in July and August. For more information, go to www.lsrm.org or call (800) 423-1273.

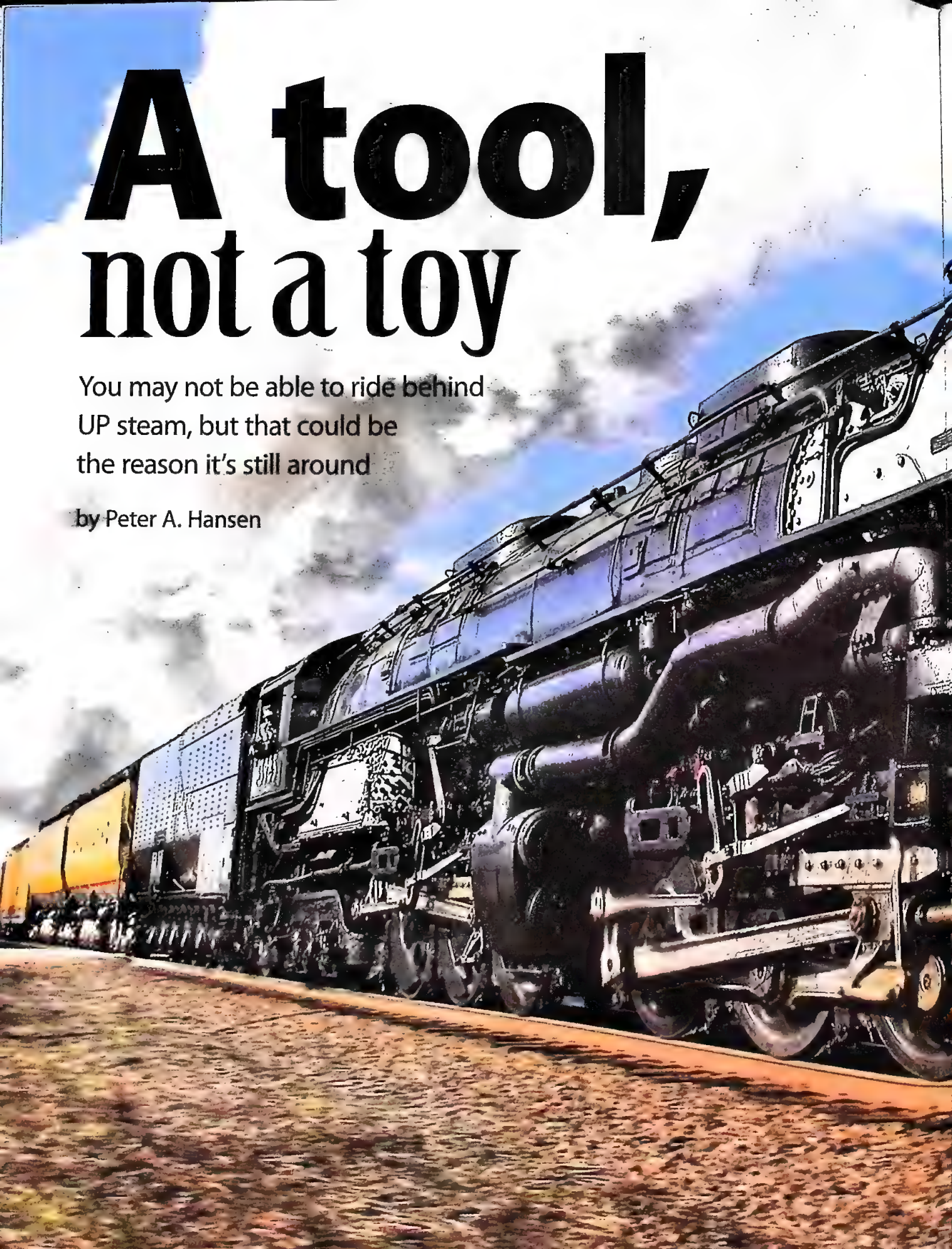
STEVE GLISCHINSKI is a freelance writer who lives in suburban St. Paul, Minn., and a TRAINS *correspondent who has reported extensively on Milwaukee Road 4-8-4 No. 261.*

Full Steam Ahead
America's oldest short-line celebrates its rebirth. Fifty years ago, twenty-four visionaries breathed new life into Strasburg Rail Road, saving it from abandonment – keeping it alive to educate and entertain for generations to come.
DON'T MISS THE REFURBISHED
Reading No.10 President's Car
STRASBURG RAIL ROAD
SINCE 1832
Rt. 741 East, Strasburg, PA • 717-687-7522
www.StrasburgRailRoad.com
All aboard!

A tool, not a toy

You may not be able to ride behind UP steam, but that could be the reason it's still around

by Peter A. Hansen



Union Pacific 4-6-6-4 3985, the largest operating steam locomotive in North America, rolls into Paola, Kan. Roy Hilmer

Steam engines draw the public and serve as family photo backdrops, as at the restored Missouri Pacific depot in Russellville, Ark., on May 29, 2004. David Hoge

To the fans standing trackside, the case for Union Pacific's corporate steam program seems like a no-brainer. The experience of mainline steam is so profound, so visceral, that dollars and cents seem completely beside the point.

But companies don't make decisions based on sentiment — or, at least they're not supposed to. Decisions are supposed to be fact-based. That's what scientific management is all about, and that's what shareholders demand. The whole exercise of running a corporation is about making money, after all.

To a railroad, the imperative for fact-based management is pretty stark. Obligations extend not only to shareholders, but to bankers, shippers, the rest of the industry, to the national economy as a whole, and to the employees whose livelihoods depend on good decisions in the executive suite.

Most fans know all that — even if it's not their first thought when a 4-8-4 is hurtling down the track at full tilt. What they might not know is that UP's steam program can and does meet modern corporate objectives. But it doesn't meet the objectives by itself. Like any corporate asset, it has to be used intelligently. And, since corporations are human institutions, rife with complex relationships, egos, and turf wars, it takes a lot of politicking to keep iron horses rolling.

What have you done for me lately?

"Every year is our last year," says Steve Lee, the head of UP's steam program since 1988. "And every year, whatever [money] you spent last year is what you're getting this year. It's an ongoing battle."

That's not to suggest that Lee and his program are in imminent peril. But it is to say that he has to justify his existence with each new budget cycle, just like anyone else in the corporation.

"We don't get anywhere near everything we ask for," Lee continues, but he's not complaining. The steam program is part of the executive department at UP, and Lee's boss, Charles Eisele, reports directly to Chairman, President, and CEO Jim Young. That means "UP Steam" enjoys good mindshare at the highest levels, but it also means the department is under a microscope.

"The chairman believes his staff should set the example for everyone else," Lee says, "and that's a good thing. We've all seen companies where it's 'do as I say, not as I do.' They'll cut off the last [track] section man [for a hundred miles], but they keep all three of their [corporate] airplanes. That doesn't happen with this guy; when we have cuts, they share the pain."

So how does UP Steam justify its existence? Good data, for starters.

When Lee took responsibility for the program, it had no budget and no formal role at UP. "That did two things," Lee says. "It allowed every Tom, Dick and Harry on the railroad to say, 'This thing is killing us; it's costing zillions of dollars.' They couldn't prove it, but we couldn't prove it wasn't. And the second thing was, every year, you'd get people saying, 'If they got rid of this damn thing, we could lay this many more miles of rail,' or we could get this many of this or that.

"Well, after a couple of years of budgeting and cost accounting, the next time someone stood up and said that, I could say, 'Here are the figures, so you show me where the money went.' You'd never hear from that guy again."

Lee pauses and says, "If you spend the money wisely, whatever you get, you can make a business case for more. But you don't go in there and say, 'Boy, this would really be a neat thing to do.' That'll get you tossed right out the door, and it should, from a business standpoint."

A business case at UP is a one- or two-page summary, outlining the job to be done, how much it'll cost, and the benefits of doing it — or the consequences of not doing it.

Do steam engineers wave more than politicians? Residents and Challenger 3985's crew exchange greetings at Prescott, Ark., on June 17, 2004. David Hoge

With the steam engines, a business case might be stated in terms of how many years of trouble-free service will result from the expenditure, as opposed to the costs of deferral and work-arounds.

"Offsets" are part of the equation, too. It's impossible to quantify the steam program's contribution to the top line, but it helps if it offsets some of its costs. The souvenir car accompanies Union Pacific steam on every run, and the program also reaps revenue from charters like the annual *Denver Post* trip to the Cheyenne Frontier Days celebration in July. The offsets are comparatively modest in relation to UP Steam's million-dollar annual budget, but that budget is pretty small in the overall scheme of a $16 billion corporation. To the extent Lee keeps playing by the rules, he increases the chances that the company will remain comfortable with the program.

Positive media coverage is also helpful, though once again, the dollar value is hard to measure. One thing is almost certain, though: Steam is Union Pacific's best public relations tool. People respond to a corporation with a sense of its roots, and few if any railroads can claim a more storied past than UP. When the steam engine comes to town, it probably does a lot to make the nay-sayers forget about those air horns in the night.

Union Pacific 4-8-4 No. 844 provides a glimpse into Super-Power steam for interested spectators in Kansas City during a layover in 2007. Roy Inman

The human element

In the real world, decisions usually aren't made in the pure air of unadulterated facts. Business cases are indispensable, but personalities are a big part of any decision-making process. That probably goes double in a huge organization like Union Pacific, with its multiple currents and eddies of large and small interests. When all of those things flow together, it's a beautiful thing to see, but it doesn't happen by accident.

Lee is not a touchy-feely kind of guy, but he does know the importance of relationships, and he spends a lot of time cultivating them. Finance, supply, operations, and risk management are just a few of the depart-

Why isn't there any non-UP steam on UP?

"We're not here to run steam engines; we're here to add value to the corporation," says Steve Lee, expanding on a theme from the accompanying story. "Right now, adding value involves steam engines and E9s, but it certainly does not involve issuing an open invitation to other operators."

The policy dates back to 1969 and Ross Rowland's "Golden Spike Centennial Limited." John Kenefick was UP's vice president of operations at the time, but as a vice president at Penn Central a few years earlier, he had an unhappy experience with another Rowland operation. He denied permission to use Nickel Plate Road 2-8-4 No. 759 on the UP portion of the New York-Ogden trip, and from this decision a policy was born.

The policy has served the railroad well in the years since, partly because it fits in with Union Pacific's brand message. UP has an unbroken corporate identity that stretches back to 1862 – longer than any other Class I – and it's important to the company. If UP heritage is going to be represented on its railroad, it's going to be represented by one of UP's own engines.

Other factors come into play, too. In the modern corporation — and railroads aren't unique in this — the margins are so thin, the tolerance for error so small, and the staffs so lean, that UP finds it hard to turn the railroad over to others, no matter how qualified they are. "Whatever happens," Lee says, "it's our property. We're the ones who are going to get the bad publicity, the angry customers." — Peter A. Hansen

Focusing on operating its own steam, Union Pacific keeps the spotlight on its own corporate image. Alex Ramos

ments that help make UP Steam a success.

Gaining their support is a matter of education as much as anything else. Like many large companies, Union Pacific has a list of authorized suppliers. It simplifies the procurement process and, since most vendors are selected through competitive bids, it reduces fraud. When a car shop needs new couplers or brake shoes, everything is pretty easy, but when 844 needs new boiler tubes or flexible staybolts, it's a little different.

For one thing, those parts can't be ordered from just anyone. Certain parts are available from only one vendor, so when Lee tells the supply people that he can't get competitive bids, it is bound to raise a few eyebrows. Supply might need a quick course in Steam 101, explaining what staybolts are and why they can't be bought off the shelf.

"Each time, we have to dance the dance," Lee says, but he's philosophical about it. "They're very skittish, as well they should be. Essentially, these are no-bid contracts, so there is a lot of potential for fraud.

> "If you can't get to the boss, get to who he's sleeping with."

"My best relationship-builder is to have them come out and ride with us. I'll show them what the part is and what it does, and why it's not like anything they deal with on a daily basis. If a picture is worth a thousand words, then standing there looking at it is worth a million words."

Similar scenarios play themselves out with the risk management people. After the 1995 firebox explosion on the Gettysburg Railroad, Lee "thought the roof was going to come off. In a way, I can't blame risk management. They're professional worrywarts, and that's what they're supposed to do." Another Steam 101 course ensued, with an emphasis this time on safety, on the causes of the Gettysburg incident, and on why such a thing wouldn't happen on Union Pacific.

Perhaps no internal group is more important than operations. As a career ops man himself, Lee knows how critical it is that everyone is on the same page. He works with everyone from the Harriman Dispatch Center to the individual service units and trainmasters. "We want to make sure everyone knows what's going to happen, and more importantly why it's going to happen, what the stakes are, and what we expect from them, if anything. When all's said and done, we look like we know what we're doing, and it's just another day's work." Like any operations man, Lee knows the best day is when nothing remarkable happens.

And sometimes, of course, all this politicking is just plain fun. Train rides are persuasive, and baseball caps are effective, too. And when all else fails, he says, "If you can't get to the boss, get to who he's sleeping with — take his wife for a ride! She thinks we own the moon, and we keep it that way. It's funny, but it works."

By building bridges to other departments in the company, and even to employees' families, UP Steam fosters a sense of inclusion. Not only does it address the immediate issues of supply, liability, and operations, it also increases its long-term mindshare with the rest of the company.

Political skill is important to the steam program, and Lee is good at it. "I have more fun working the bureaucracy than I do running the engines," he says — and one almost gets the impression he means it.

Returning north from a trip to entertain guests at the Super Bowl in Houston, Texas, No. 3985 rolls along near Paola, Kan., on Feb. 8, 2004. Roy Inman

The importance of purpose

This isn't about getting everyone to hold hands and sing "Kum Ba Yah." It's about aligning the steam program's mission with larger corporate objectives. Steam is the tail, not the dog.

Without a clear definition of steam's role, and without broad consensus throughout the organization, a program becomes vulnerable. It nearly happened at Union Pacific some 30 years ago, and it did happen at Norfolk Southern in 1994.

The NS program and its predecessor at Southern Railway, enjoyed senior executive support for decades. W. Graham Claytor Jr., at Southern, and his brother, Bob, at Norfolk Southern, were overt railfans. Nobody doubted their enthusiasm for steam during their years at the top of SR or NS. Operational control of the program rested with Jim Bistline, a company attorney and a major shareholder, so that didn't hurt, either.

Ironically however, such high-powered support may have been the program's Achilles' heel. Steam's supporters at NS never developed well-defined corporate objectives for the program, probably because they never had to. (As former NS executive Jim McClellan notes, "You do not argue with what the CEO wants to do.") Bob Claytor and Jim Bistline retired from NS in 1987, and Bob Claytor remained on the board until 1992, but when they were gone, there was no one of similar stature to speak for steam.

"I can't recall a single time that the steam program was tied to some corporate objective," says McClellan, and he's a steam supporter. National Railway Historical Society chapters were the sponsors of the trips, and the railroad was almost relegated to a supporting role — clearly an instance of the tail wagging the dog.

The company forgot why it was running the trips. "They thought they were working for NRHS, because that's all they were running for," says a railroad official, who asked not to be named. "They didn't haul reporters, they didn't give interviews."

The operating department began to see the trips as an encumbrance. "The burden was increased because they ran all over the system and on weekends," McClellan says. "Thus, field operating folks, already stretched thin, simply had something else to worry about, and on a weekend, at that."

"Operations devoutly wanted to get rid of the program," recalls TRAINS columnist Don Phillips. After Bistline's and Bob Claytor's influence ebbed, "It was brought up at a staff meeting with 25 vice presidents. Nobody in the meeting stood up for it, and many of them said, sure, kill it."

McClellan was in that meeting as a newly appointed vice president. "A lot of effort without a clear purpose and one with significant risks was how I saw the program, and I very much wanted to see the engines kept running. But I could not muster an effective argument against termination, and it would have been dumb to do so as the new kid on the block."

It could have happened at UP, too

Even Union Pacific's steam program didn't always enjoy a shared appreciation within the organization.

"In the '60s and '70s," Lee says, "there was a lot of pull and drag in the company to get rid of it. The PR department just despised it. For a while it was in the mechanical department. They didn't want it, but they didn't want anyone else to have it, either. People would bitch and moan about how

Will there be life after Lee?

Steve Lee is nearing retirement age, which begs the question of what happens to the steam program after he leaves.

"Everybody thinks the world's going to end when I retire, and it's not," he says. "I'm going to leave this thing in good shape, I'll leave it with momentum. Whoever comes in is going to have some fresh ideas that I never thought of, and it's probably going to change the direction in ways I wouldn't have thought of. There's no physical or fiscal reason why it can't go on to even bigger and better things.

"I have no illusions about thinking that I'm the only one keeping this thing going. I know better than that. I'm bringing along [younger] people because most of the current crew are near my age, and there's going to be a massive changeover in about a three- or four-year period. I have a couple of guys on the crew that are 20 years younger than the rest of us. They'll be the next generation, and I'm trying to get more.

"Look, we've had retirements in the past and we've just kept right on going. That's the way we want it, and that's the way I want it. I don't want to get a call in the middle of the night saying, 'This is broken, what do we do?' 'Man you've got the wrong number — click!" — *Peter A. Hansen*

Union Pacific steam boss Steve Lee looks at retirement and says: "Everybody thinks the world is going to end when I retire, and it's not." David Hoge

much it cost, and they figured if they didn't spend any money on it, eventually it would just wear out and go away. That was the case even into the '80s."

A pivotal moment arrived when UP needed to move the 3985, the now-legendary 4-6-6-4 that had been on static display in Cheyenne. The railroad needed more parking spaces and simply intended to move the Challenger to another static location. A group of retirees from the Cheyenne shops wrote a letter to then-Chairman John Kenefick, saying they wanted to work on the engine with an eye to restoring to running condition.

"The consensus was, let 'em bang on it," Lee recalls. "And when they get tired of it, they'll go away. Well, two years later, it's running. Oh, my God! Now what do we do?"

The question forced UP to grapple with the role of its steam program. The engines were removed from the mechanical department and given to operating, and Lee was chosen to manage the program. Progress was an off-and-on proposition — Lee couldn't always get coal for the 3985 before it was converted to an oil-burner — but now UP Steam seems to have found a home in the executive department.

In dramatic contrast to the old Southern and Norfolk Southern programs, and to its own practice in earlier years, Union Pacific seldom uses its steam engines for frequent public excursions — and that could be the reason 844 and 3985 are still running.

Fairly or not, operations personnel often see railfan events as a distraction at best, and as a detriment at worst. Their trust is to keep the railroad fluid, and for most of them, it's more a mission than it is a job.

When steam serves a larger corporate purpose, however, it's easier to win consensus from all the stakeholders. UP uses its steam engines to support the Operation Lifesaver grade-crossing safety program, for employee clubs, and to haul schoolkids. Last year, they ran an extended tour to collect donations for veterans. And of course, local news media can be counted on to cover the trains, and the general public usually turns out in large numbers.

> "I happen to believe that steam, used properly, can be an effective tool."

"This isn't a toy, it's a tool," Lee says. "And like any other tool, you'll break it if you misuse it. We used to have resistance in some quarters, but I said, 'Wait a minute — this is the two-by-four that you get peoples' attention with. Now you have a captive audience.'"

Lee had just come from a swing through Oklahoma and Kansas at the time of our interview. "In Wichita, the mayor came out, and Operation Lifesaver set up their trailer and simulator, and they're making more contacts than they would any other way. We're showing off the UP, and the 844 is the tool that made all this other stuff happen."

Lessons learned

McClellan agrees, and once again, the "t-word" comes up. "I happen to believe that steam, used properly, can be an effective tool … UP seems to be doing a good job of using steam selectively, and often to support some civic or employee event. And I note how the Canadian Pacific used the steam train to support local charities and to build some good will among their own employees. BNSF seems to be on the same track with the [Milwaukee Road] 261 program."

Distance lends perspective. Nearly 50 years after the last fires were dropped on Class I lines, steam's role in a modern railroad may finally be coming into sharper focus. In the dark night of American railroading, circa 1960-1980, the industry had its hands full just convincing policymakers, shippers, and the public that railroading still mattered. The industry was widely seen as a dying one, and the last thing many public relations departments wanted was a smoky old steam engine. In their view, it completely undercut the message that railroads were modern and still relevant.

Today, the industry is healthier than it has been in at least 80 years. Nobody doubts the relevance of railroading anymore, so it's much safer, from a public relations perspective, to play up the heritage. Not only is it safe, a desirable message can be crafted around the program.

To wit: We have a long history, we're proud of what we've done for the country, and we're still doing it. Certainly, Union Pacific's "Building America" campaign dovetails nicely with steam.

But nothing is immutable. Times change, leaders change, corporate messages change. Always realistic, Lee says, "We start all over from scratch, every year, just like we've never run this thing before." That's the way a successful corporation has to operate.

PETER A. HANSEN, a freelance writer in Kansas City and a frequent TRAINS *author, is editor of* Railroad History, *the journal of the Railway & Locomotive Historical Society.*

Union Pacific 4-8-8-4 No. 3985 makes a move at Little Rock, Ark., on June 20, 2004. David Hoge

A worker at the National Park Service's Steamtown site in Scranton, Pa., enters a doorway into the world of steam power. That's Nickel Plate 2-8-4 No. 759 on display in the background. Kelly Lynch

Keepers of the flame

Meet a few of the people who help to ensure the survival of steam today – and beyond

by Peter A. Hansen

From ancient Heislers to modern 4-8-4s, today's operating steam engines are a diverse lot. So are the men and women who own them, run them, and keep them going.

Some of them are associated with tourist lines, a sacred trust because that's where today's kids often experience steam for the first time. Some are itinerant hired guns whose skills have brought engines back from the dead, and who have loyal followers among their customers. Some of them are household words in rail heritage circles: titans of the main line with megastar engines like Nos. 261, 844, and 4449.

Most of them aren't old enough to remember Class I steam, and that's a cause for optimism. They prove that steam still has power, not only to move pistons, but to move good people to spend their lives with a technology that's considered obsolete. If one generation could be so inspired, then the process can be repeated with a second and third, and steam will survive. Let's take a look at the people behind living steam in recognition that steam tomorrow depends on what's happening now.

The tourist lines

Don't let their smaller locomotives fool you: Some of the most expert steam people are associated with tourist lines. In Britain, they're called heritage railways, a term that better describes the importance of what these operations are all about.

Pennsylvania's Strasburg Rail Road and Connecticut's Valley Railroad are two of the industry's class acts. Each of them re-creates a shortline or branchline operation from the early 20th century, and each of them has first-rate mechanical talent.

Linn Moedinger is the president and chief mechanical officer at Strasburg. He has been around this railroad — and steam — for most of his life. (His father, William, was one of the driving forces behind Strasburg's 1958 rebirth as a tourist line.) The younger Moedinger learned the boilermaker's craft from a former Pennsylvania Railroad employee, and he keeps the traditions alive with his own shop forces. So, like Zen monks who can trace a lineage of teachers back to the Buddha, Moedinger's students and their students after them will have their roots in the revered Pennsy.

Strasburg Rail Road's Linn Moedinger runs 2-6-0 No. 89. TRAINS: Jim Wrinn

Tourists probably don't come to Strasburg because Moedinger is so faithful to ancient practice, but that's part of what makes the experience so authentic, whether they know it or not. And make no mistake, Moedinger is devoted to the old ways. For him, it's not enough just to have locomotives under steam; wherever possible, they should be maintained in accordance with time-honored methods, and hang the difficulty. [See pages 42-47.] "You have to be willing to put your heart and soul into something no one is going to see, or even care about," he says. "That's our boilermaker mentality."

A few hours north, J. David Conrad is the chief mechanical officer at the Valley Railroad in Essex, Conn. Steam engines aren't a tradition in Conrad's family, but they somehow got into his blood. "I've always loved steam," he says. "The family story is that when I was a babe, we lived in Geneva, Ill., and one of the places my mother would take me was the Chicago & North Western station. Later we moved to LaPorte, Ind., about three blocks from the New York Central station. I hung out there a lot."

Through his formative years, Conrad was mostly a spectator to steam, but as a teenager, he met Richard Jensen, owner of ex-Grand Trunk Western 4-6-2 No. 5629. "He was someone I idolized," Conrad recalls. "He wasn't a rich guy: He drove a bread truck, and his route stopped about two blocks from my home. I'd wait at the

Brian Wise works under the boiler to adjust the spring rigging on Mount Rainier Scenic Railroad's 2-8-2T No. 17. Wise got his start on California's Niles Canyon Railway and moved to the Washington-state tourist line in 2006. TRAINS: Jim Wrinn

grocery store for his truck to show up, and we'd stand around and talk about locomotives." Jensen later asked the young man if he would care to volunteer on a steam excursion, and it was an easy sale. "When I first started working on the locomotive in 1966," Conrad says, "it was like an epiphany. All of a sudden, I figured out what I wanted to do with my life."

His experiences took him to the Illinois Railway Museum and to Steamtown, where he worked with the late Don Ball to move the collection from Vermont to Scranton. He's been at the Valley since 1986, and he's not planning to leave. Like Yankee Connecticut itself, he says, "We're not splashy. The Valley is a for-profit enterprise, so we can't get grants, and we're always counting quarters. We're in the business of staying in business."

But the Valley has been successful, and Conrad points to one growing market: "We're seeing busloads of Chinese and Korean immigrants from New York City. I think they're coming here because they're looking for America. My guess is that they have a vision of this country, maybe based on the movies, and the Essex Steam Train is one of the places they're finding it."

Heritage railroads come in many different sizes, but they're a coast-to-coast phenomenon. Just as the salt air of Long Island Sound wafts into the Valley's property, the Oregon Coast Scenic Railroad hugs the Pacific. Oregon Coast can boast as much local flavor as its Eastern cousins, but here in timber country, the motive power of choice is Heisler No. 2, built in 1910 and originally owned by the Curtiss Lumber Co.

Robert Yuill, left, and Scott Lindsay, right, got their start with Norfolk Southern and each is now an independent contractor. Jim Wrinn

Ask Oregon Coast's Scott Wickert how he found himself working on an unusual geared engine, and he'll joke, "Bad luck!" Oregon Coast is a small operation but, fortunately, Wickert is long on restoration skills. No. 2 has a new crown sheet and new tubes, and Wickert has done cosmetic work on the cab and tank.

He has also formed the Tillamook Locomotive Works to perform contract jobs. He can't recall a time when steam didn't fascinate him, and he got into metalworking with his dad at an early age.

His hands-on experience with steam began at Mount Rainier Scenic Railroad under long-time master mechanic Jack Anderson. Wickert would work at Mount Rainier all day, and later, after he purchased two of that road's Heislers, he'd stay all night to work on the engines. "On a Heisler," he says, "the work is never done."

But that work is paying off: Oregon Coast is entering its sixth year, and ridership is up. "Our route is between U.S. 101 and the ocean, and that brings a lot of people in," Wickert says. "It's a short enough run, and the prices are reasonable, even for a family."

As with any steam heritage line, there are abundant educational opportunities. Wickert says he gets "a lot of interesting questions, like, 'This isn't a real steam engine, is it?' Some people think it must be a diesel underneath!"

Amanda Burt is a volunteer with Santa Fe 2926 in Albuquerque, N.M. Steve Crise

The hired guns

Important as the heritage lines are, they can't create a memorable steam experience without good engines, and not everyone has the in-house expertise to get them running. That's where the itinerant gurus come in. While there is some overlap, (Conrad and Moedinger consult extensively with other heritage lines, for example), a few highly-qualified people specialize in consulting and rebuild work for other owners.

Two such individuals came from Norfolk Southern. NS terminated its steam program in 1994, but not before Scott Lindsay and Robert Yuill racked up years of experience on some of the finest engines then running, including A-class 2-6-6-4 No. 1218 and J-class 4-8-4 No. 611, both now at the Virginia Museum of Transportation. "The NS program was a great learning opportunity, taking the A and J and restoring them to blueprint standards," Lindsay says.

Growing up in southern New Jersey, his earliest steam experiences — as a kid, as a working volunteer, and in his first paid position — revolved around Reading's T-1 class 4-8-4 No. 2101. He went on some of Reading's Iron Horse Rambles with his dad in the 1960s, and he graduated from high school in 1976, just in time to volunteer on the American Freedom Train, which used the 2101 on its travels in the East. He began getting paid for his work the following year, when Chessie System leased the T-1 to help celebrate the sesquicentennial of predecessor Baltimore & Ohio. He later worked for Ross Rowland's High Iron Co.

"Nothing intimidates me," Lindsay says. "I guess that could be called arrogance, but I

Scott Wickert throttles out Curtiss Lumber Co. two-truck Heisler No. 2 at the Oregon Coast Scenic Railro... near Garibaldi, Ore., in July 2007.

TRAINS: Jim Wrinn

Clem Harris, a volunteer rebuilding Santa Fe 4-8-4 No. 2926 in Albuquerque, N.M., shares a moment with Travis Atwell (background) while working on the big Northern. Steve Crise

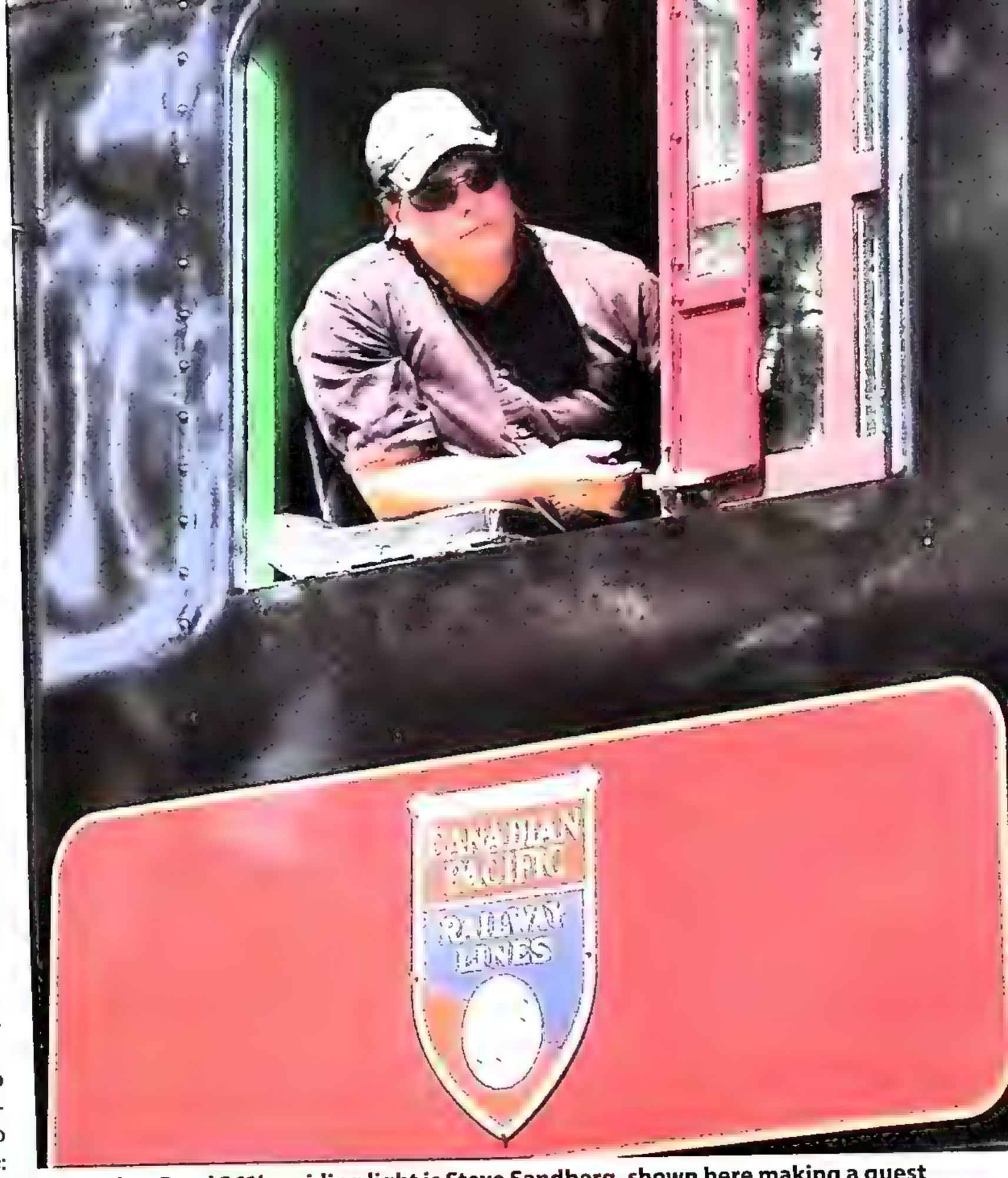
Engineer Chris Bost keeps a constant view of the track ahead as he notches out the throttle on New Hope & Ivyland 2-8-0 No. 40 in Pennsylvania. TRAINS: Jim Wrinn

call it confidence." But he hastens to pay tribute to the men who built, ran, and maintained the steam locomotives of the past. "We're not smarter than they were years ago; we just have better technologies, like [computer-assisted drawing]." He also points out, "It's not just me; it's the people I surround myself with. That's the reason I'm successful." Today's steam guys may not have more innate mechanical ability than their predecessors, but Bill Withuhn of the Smithsonian believes their knowledge is more comprehensive [see page 33].

"We're not experts," Lindsay says. "I don't like that term. We're lifelong learners. I never consider myself an expert on anything, because I learn from every job I do." Lindsay now lives in Birmingham, former home to the NS program, but his Steam Operations Corp. often goes on-site to its customers, which have included a variety of operating and interpretive museums.

Robert Yuill also came from the Northeast, spent several years in the NS program, and now lives in Birmingham, but the broad similarities end there. A native of Allentown, Pa., he had been volunteering on ex-Canadian Pacific Royal Hudson No. 2839 when it was based in Pennsylvania in the 1970s. When Southern leased the engine in 1979, he went with it. "I made a phone call to Bill Purdie, who was Southern's master mechanic for steam," Yuill recalls. "I said I was looking for a job, and he said come on down. I couldn't get there quick enough." Within four years, he was general foreman of the steam program. He expanded the staff to include boilermakers, welders, and machinists, all of whom gave Yuill a better understanding of the various crafts. He formed Historic Machinery Services in 1996.

The Valley Railroad's J. David Conrad explains steam's workings. Valley Railroad



Milwaukee Road 261's guiding light is Steve Sandberg, shown here making a guest appearance on Canadian Pacific 4-6-4 No. 2816 in Minnesota in 2007. TRAINS: Jim Wrinn

For Yuill, his chosen work is bigger than the engines themselves. "I'm into industrial history in general," he says, and he's passionate about the subject. Industry has been central to the American story, and he'd like to see more industrial history museums of all kinds, not just rail museums. But his wish comes with a qualifier: "There has to be interpretation. I'd like to see more museums that instruct and teach, rather than just display. One of the biggest challenges is to get young people interested in not only railroads, but the whole history of technology. [But to do that], you need to say why it's significant to a person in the 21st century."

Matt Austin is also into themes that go beyond the engines themselves — way beyond, to the depths of the earth and up to the heavens. But first, his steam experience: Like all good mechanical men, he's an inveterate tinkerer, a guy who isn't afraid to take on almost any job. He was born in Fort Worth, Texas, where ex-Texas & Pacific 2-10-4 No. 610 was on static display before its resurrection for the American Freedom Train. He remembers peering through the fence at the big Texas type when he was a kid, and recalls, "I was deathly afraid of it."

The fear didn't last. Austin moved to Hawaii at 13, and learned that a local historical society was restoring an old plantation engine. He thus had his baptism in boiler work at 14, and spent subsequent summers learning from some of the best in the business, including Doyle McCormack, Linn Moedinger, Dan Ranger, and Bob Stout. He has worked at Heber Valley, the Illinois Railway Museum, and on Union Pacific's No. 844.

He was hooked. He received his engineering degree from the University of Hawaii, did quality assurance on pressure vessels for the U.S. Navy at Pearl Harbor, and started his Hawaiian Steam Engineering Co. Today, he says, "I can actually design a boiler, then I can build it, and then I can certify it. In one way or another, I've got my fingerprints on most operating engines west of the Mississippi."

But Austin is relentlessly curious. The same spirit that got him into hands-on steam work as a young teen has also taken him toward an interest in geology. He wants to go for a doctorate degree, and he's working on a theory that would establish a link between seismic activity and the positions of the moon and sun. Asked which is more fun, steam engines or geology, the Honolulu resident laughs and says, "Three years in Cheyenne [Wyo.] is more than anyone should have to endure, and I feel sorry for [UP steam boss] Steve Lee and his crew!"

Dave Griner might not agree. He's been no stranger to Union Pacific's steam program in the past, and now he's back in Cheyenne again, working this time for John Rimmasch's Wasatch Railroad Contractors. Wasatch performs a variety of steam restoration services, is a contractor to Union Pacific, and has clients across the country and in the United Kingdom. Griner is well-traveled, having been at Strasburg, Nevada Northern, and Hartford Steam Boiler Inspection and Insurance Co. The latter firm's name pretty much says it all, but it's worth noting that Hartford is a world leader in its field and prides itself on the quality of its engineering expertise.

Griner, like many of the people in this story, is fascinated with engineering theory. He has become an advocate of ideas advanced by Livio Dante Porta, an Argentine engineer whose best work was done in the waning days of steam. Porta's combustion and exhaust systems were proven to reduce fuel consumption and smoke, which, Griner believes, may lead to their adoption among 21st century steam operators. "In the future," he says, "if you're burning coal, you're going to be a bad, dirty person, and if you burn oil, you're going to be a poor person. The world is going to change in 10 years."

Veteran Yreka Western fireman Bill Ainsworth pumps grease into a crosshead fitting on 2-8-2 No. 19, a Baldwin, at the northern California short line. TRAINS: Jim Wrinn

Niles Canyon Railway's Henry Luna perches atop 2-6-2T No. 3. TRAINS: Jim Wrinn

He points out that Porta's last project was to use biomass, such as pelletized wood, for fuel. "We don't know yet if you can run big engines on this stuff," Griner says, "but there may be places where it can work." He has had discussions with Chief Mechanical Officer Steve Jackson of the Durango & Silverton, where the neighbors have complained about smoke. But the experimental fuel would require redesigned firing systems and bunkers, which means the looks of a K-36 Mikado might change. Still, Griner hopes the technology will find a home in new locomotives at least, and if it does, there's a good chance he'll be one of the designers.

Titans of the main line

Out on the high iron, though, coal and oil still rule. The questions are, for how long and under what conditions? Steve Lee, Doyle McCormack, and Steve Sandberg operate in vastly different circumstances, and the future ranges from cloudy to bright, depending on which man you ask.

Steve Lee has nothing less than the Union Pacific Railroad behind his efforts. The good news here is that a major corporation is paying for the program and has a vested interest in promoting it. But as Lee himself would be the first to point out, companies can and do change their priorities. His overriding challenge is to ensure that UP steam is always managed in accordance with larger corporate objectives. [See pages 16-23.]

Doyle McCormack operates in a particularly difficult environment for mainline steam. He stables an impressive collection of engines, but they're kept in the Brooklyn oundhouse, a one-time Southern Pacific facility in Portland, Ore., for which current owner UP has redevelopment plans. McCormack estimates he has one to two years before he loses his digs. His headliner is Southern Pacific 4-8-4 No. 4449, but he also stores another beautiful Northern, Spokane, Portland & Seattle 700; Harriman Pacific No. 197, which once belonged to UP subsidiary Oregon Railway & Navigation; and an Alco PA that's being redone in Nickel Plate Road colors. (McCormack came from a Nickel Plate family and got his start in railroading there. His own version of the Book of Genesis goes something like this: "In the beginning, God created the Nickel Plate Road, and then he created Alco and Lima to supply them with locomotives.")

Boiler expert Matt Austin inspects a plantation engine. Says Austin: "I've got my fingerprints on most operating engines west of the Mississippi." Courtesy of Matt Austin

Real estate is just the beginning of McCormack's challenges. UP's policy of not allowing foreign steam on its rails ("You can't fault them for that," he says.) limits operating opportunities as does a dearth of coaches. "It's a problem, especially here in the West, where we're so far from population centers. It costs as much to deadhead the equipment on Amtrak from Chicago or Beech Grove as anything else in the budget."

"Anything else" also includes the cost of insurance, which continues to push up costs for all steam operators. McCormack can absorb those costs only so much before he has to raise the price of tickets. Put it all together, and you're looking at a cost of $50,000 to $100,000 per car to run an excursion — and that's before the locomotive's operating costs are factored in.

Steve Sandberg has been hit by the cost of insurance, too, but at least he doesn't have to worry about leasing cars, or about the distance from several big cities. Based in

Steam veteran Doyle McCormack adjusts a headlight lens on Southern Pacific 4-8-4 No. 4449. McCormack is one of the few who are able to put a big engine on the main line today. Tom Kline

Minneapolis, his Milwaukee Road 4-8-4 No. 261 is a familiar presence in the Midwest and elsewhere, but he also has a roster of more than 18 cars, most of which also have a Milwaukee Road heritage. The 261 operates at a loss, Sandberg says, but diesel excursions, private car trips, and car rentals offset the losses. "In one 12-month period," he says, "we ran excursions with two Chinese 2-10-2s, an American engine, and a Canadian engine." As to the cars, he points out that "within a two-month period, our cars ran from Winnipeg and Calgary to Minneapolis, Chicago, and the Spencer Shops in North Carolina. The money from that operation goes to support the 261."

Last year was "the year of the [4-6-4] 2816," Sandberg says. "We worked hand-in-hand with Canadian Pacific [see pages 50-55]. They provided the engine; we provided the crew and sold tickets." Mindful of another key constituency, he adds that "We really depend on railfan support, so we did it with two steam engines, no auxiliary tenders, and no diesels. We really wanted to do something photogenic."

Sandberg also gives a big nod to his colleagues in the steam fraternity: "I've spent time on the road with Steve Lee and Doyle McCormack, and the [now retired Frisco 4-8-2] 1522 people, and I've watched their crews at work. We learn a lot from other organizations, and any time we can share information, I think that's a good thing."

None of this is to suggest that Sandberg doesn't have his challenges. "We realize every day when we go out there, that if we have a serious injury or accident, it could be our last trip." The 261 will have its 1,472-day inspection late this year, and the locomotive will be overhauled to make it good for another 15 years. Since he's laying out so much money up front, he's not about to take chances on the road.

Nor is any other credible operator. The finances are a huge inducement to good operating practice, but life and property are even more basic. That's why many of the people profiled here serve on the Engineering Standards Committee. The committee, which is independent of the Federal Railroad Administration, was formed in 1990 because steam professionals believed it was time to reevaluate repair and inspection practices. In the wake of the 1995

Nickel Plate Road 2-8-4 No. 765 Chief Mechanical Officer Steve Winicker cleans the Berkshire's ashpan in a timeless scene made at New Haven, Ind., on Aug. 19, 2006. Kelly Lynch

The students have exceeded their teachers

Remarkable people, these. The people profiled and pictured here, and a good number of others, have each made significant contributions to the preservation of living steam. We owe them all a great debt. It's safe to say that, were it not for some of them, every steam locomotive in this country over two-foot gauge would have been rendered cold and lifeless long ago.

But let me make another assertion, bound to stir a little controversy, about the leaders of today's steam operations community. They each know the machine — in all its complexity — in greater depth than any single expert ever understood the intricacies of steam in its heyday. That goes for celebrated locomotive designers, master mechanics famous in their era, accomplished craftsmen in the back shops, and skilled cab crewmen.

How could that be? I don't think I'm alone in that judgment. What strikes me is that the current leaders of steam, many of whom understudied with veterans of mainline steam when it ran daily, have gone far beyond their teachers. That's because these people know the total steam beast, in all its vital interrelationships of design, life-cycle repair of boilers and running gear, and operations. I've known many practitioners from the classic steam age, including several outstanding designers. Those people — from designers to mechanics — were all specialists, viewing their machines from different angles, such as performance issues, maintenance and repair, or good running. But the current custodians of steam have to integrate all these aspects, in a sophisticated wisdom greater than any specialist could achieve.

Some observers today, including a few steam operators, view the steam locomotive as a wonderful but quaint refugee from another technological era, a time unlike our present world of throwaway electronics and machine repair by the exchange of readily interchangeable parts. Such folks betray their ignorance, both of history and of skilled craft. Looking to the years ahead, the kicker is that without wisdom bred of long experience, some steam operators will either unknowingly court disaster, endangering themselves and the public, or throw money into their projects without any depth of understanding and then give up, the money wasted.

The greater part of wisdom lies in asking the right questions. And help is available when you want it. The expertise needed is around.

— Bill Withuhn, transportation curator, Smithsonian Institution

boiler explosion on Pennsylvania's Gettysburg Railroad, FRA turned to the committee for rule-making proposals.

Without the expertise and credibility of committee members — largely an unsung group — U.S. steam operations might have been reduced dramatically after Gettysburg. Committee members in this story include Conrad, Griner, Jackson, Lee, McCormack, Moedinger, and Yuill. Withuhn of the Smithsonian Institution chairs the group.

The dedication of committee members points out another motivation to good operating practice: posterity. Steam didn't survive into the 21st century by accident; it survived in spite of accidents — the Gettysburg incident, in particular — and because these people put forth a lot of work to make it happen. It's a good bet that steam will always need new generations of people with a similar commitment.

The crystal ball

The challenges for steam today are many: insurance, equipment costs, fuel costs, capacity on the nation's main lines, the specter of another Gettysburg, and the distractions of the electronic age. But the locomotives are still running, and a lot of it has to do with the dedication of good people. They probably won't get rich doing this, but they all believe there's something more important at stake than their personal fortunes.

While money may not be the primary inducement, many of these men nonetheless have an entrepreneurial spirit. They're always looking for ways to reinvent themselves and to reach new generations with their product.

Consider McCormack: The future isn't especially bright for his mainline operations, but his good humor never seems to fail him. If anyone can make lemonade from lemons, it's McCormack. He laughs and says, "I don't know if it's denial or stupidity, but I always keep thinking opportunities will come up."

He is president of an organization called the Oregon Rail Heritage Foundation. "We're a collection of groups in Portland, including the local National Railway Historical Society chapter, Friends of the 197, Friends of the 4449, the Pacific Railroad Preservation Association [SP&S 700's group], and some non-railfan partners." The foundation is working to find a new home for Portland's three steam engines, and they hope to locate near the Oregon Museum of Science and Industry. "Over a 20-year period, we'd like to build a transportation museum similar to Sacramento or Baltimore," McCormack says.

Dave Griner, now at Wasatch Railroad Contractors, is fascinated with engineering theory. John Rimmasch

Elsewhere on the mainlines, UP's program seems secure in the immediate future, and Sandberg remains optimistic about continued operation for the 261. "We plan to keep doing this indefinitely," he says, but "the question is the railroads." Even for those roads that have been hospitable to steam operations, insurance costs and capacity constraints could overwhelm goodwill. Still, even as he acknowledges the potential pitfalls, Sandberg is making a 15-year investment in the 261's overhaul. The outlook may be less clouded on the better-run heritage lines. Strasburg endures through a combination of good management, proximity to population centers, and contract work on steam locomotives from other roads. The Valley is in a densely-populated area, too, and those busloads of immigrants are helping a lot. And on the Oregon Coast Scenic, the smallest of all the operations profiled here, Scott Wickert says, "I feel pretty good about the future."

If steam survives on the main lines and heritage roads, there will be plenty of work for the hired guns, too. They have learned the ancient crafts and, in some cases, have improved upon them with modern methods. Twenty-first century steam couldn't run without them.

Ultimately, the heritage lines, hired guns, and mainline operators all depend on one another. Yes, they do look to each other for expertise and ideas, but in a larger sense, all of them are ambassadors for steam. To the extent one of them succeeds, they enable everyone else's success.

"My crystal ball says as long as I can get the help I need, I'll keep doing this." The words were those of McCormack, but almost anyone in the steam community would say the same.

Great Northerns

How and why five magnificent 4-8-4s keep polishing the main lines — and why one more might join them

by Don Phillips

Is it any surprise that the greatest number of large American steam locomotives still operating today on main lines is the Northern class? Five of these beauties, each capable of hauling long trains at high speeds, are operable, and they come from a noble lineage — that of Super-Power.

The first 4-8-4 emerged from the erecting floors of the American Locomotive Co. in Schenectady, N.Y., in 1926, ushering in the era of Super-Power steam. The first 4-8-4 took the name "Northern" in honor of its owner, Northern Pacific.

What defines a Super-Power locomotive is a firebox so large that it requires at least a four-wheel trailing truck for support. In addition to larger and more efficient fireboxes, Super-Power generally has a high boiler pressure, feedwater heaters, lightweight running gear, often roller bearings, and a variety of innovations that would fill a book. (One, J. Parker Lamb's "Perfecting the American Steam Locomotive," covers these many refinements in great detail.)

Given their superior performance, surprisingly few Super-Power locomotives were built: 3,078 in several wheel arrangements. The Great Depression held down locomotive production, while a mini building boom in World War II boosted output. But by then, the diesel had already planted its flag on the battlefield of rail power.

By far, the largest number of the Super-Power breed of locomotives was the Northern, with 917. The last of these, Norfolk & Western J-class 613, rolled out of Roanoke, Va.'s East End Shops in 1950.

And that brings us back to the five operable 4-8-4s of today:

- Union Pacific 844, the only 4-8-4 operated by a Class I railroad, housed in Cheyenne, Wyo., with a sister Super-Power engine, UP 4-6-6-4 Challenger 3985 [see pages 16-23]. The 844 was UP's last steam engine, built by Alco in 1944. It is currently the largest operating Northern at 486,340 pounds.
- Spokane, Portland & Seattle 700, running occasional trips out of Portland and vicinity, housed in the Union Pacific Brooklyn roundhouse in Portland, Ore. Built by Baldwin in 1938, she rivals 844 in size at 485,000 pounds.
- Santa Fe 3751, housed at Amtrak's Redondo Junction shop near Los Angeles Union Station, limited in its mainline operating ability to Amtrak's San Diego corridor because every main line in the area is crammed with freight and commuter trains. It is the oldest of the preserved 4-8-4s, built by Baldwin in 1927 and weighs 478,000 pounds.
- Southern Pacific "Daylight" 4449, often running trips out of Portland, Ore., where it is housed in the UP Brooklyn roundhouse. Built by Lima in 1941, she weighs in at 475,000 pounds.
- Milwaukee Road 261, operating regularly out of its Minneapolis home on many lines, built by Alco in 1943. She weighs in at 460,000 pounds.

(Another Northern, Grand Trunk Western 6325, is stored serviceable on the Ohio Central at the railroad's Morgan Run Shops. The railroad restored the engine in 2001 and plans to keep it operational.)

Milwaukee Road 261 is a Midwestern mainline favorite. Richard Gruber

Doubleheading for first time since 1975, Union Pacific 4-8-4 No. 844 and Southern Pacific 4-8-4 No. 4449 team up on an excursion on BNSF tracks at Edmonds, Wash., May 19, 2007. Mike Bjork

Spokane, Portland & Seattle No. 700 rolls over the Cabinet Gorge reservoir at Noxon, Mont., on an October 2002 excursion on Montana Rail Link. Mike Biehn

Santa Fe No. 3751 never looked better than it did in August 2002 when it pulled Grand Canyon Railway coaches on a David Goodheart photo charter in Arizona. Richard Faherson

Santa Fe 3751 AND 2926

The most intriguing possibility for future operations of 4-8-4s involves two Santa Fe engines: Los Angeles-based 3751 and Albuquerque, N.M.-based 2926 (now under restoration). Chances are no better than 50-50 at this point, but they do exist that we may see these engines doubleheading a long train up the Santa Fe passenger line from Albuquerque to Trinidad, Colo., over beautiful Glorieta Pass and then up the steepest mainline grade in the country, Raton Pass.

Several unlikely factors may be helping this dream forward. First and foremost is the attitude of the state of New Mexico, including Gov. Bill Richardson. To begin with, the state is planning massive celebrations for its centennial in 2012 that could include steam, and has already bought a portion of the old Santa Fe main for commuter service from Belen through Albuquerque to Los Lunas, several miles short of Santa Fe. The state's rail-purchase plans don't end at Santa Fe, though, but rather includes the original main line all the way to the Colorado border at the top of Raton Pass.

That route — now used only by Amtrak's *Southwest Chief*, perhaps one BNSF freight a day, and commuter trains in the Albuquerque area — was once the Santa Fe's transcontinental main line. It felt the weight of these two engines many thousands of times in the past, and it is a route with lots of capacity for steam trains.

"Everyone's favorite dream is 2926 and 3751 climbing Raton," says Mike Hartshorne, president of the New Mexico Steam Locomotive and Railroad Historical Society, 2926's owner.

Another factor in this potential revival is Albuquerque's purchase of the massive Santa Fe shops for retail shops, housing, a transportation museum called the Wheels Museum, and possibly a steam locomotive restoration shop. One shop building still contains overhead cranes capable of lifting and moving the Santa Fe engines.

A number of people privately doubt that these dreams will come true, even though the governor is a rail enthusiast himself and several high state officials are pushing the idea of a steamy centennial.

"I know Richardson supports the idea in theory, but he loves trains," says a New Mexico insider with close political connections to Richardson, who did not want to be named. "But he won't be governor in 2012, and there are many different egos and personalities that will have to come together in a very short period of time for this to happen. I know that the 2926 people and the 3751 people dream big, and the 2926 people are expecting more from New Mexico than I think is possible."

None of this discourages Hartshorne, who observes that the locomotive finds nothing but friends wherever it goes. The locomotive's "all-time best friend" turned out to be Jack Messer of Messer Construction in Herford, Texas, who had a $186,000 contract to move the 2926 from display in an Albuquerque park to safe storage on a siding. After collecting the first $30,000, he discovered the importance of what he was moving and immediately donated the remainder of the move free of charge. He has since kept up his interest, Hartshorne says.

Messer moved the engine out of the park in June 2000 to a siding off the BNSF main line, and in May 2002 it was moved to its current location, a siding made available by the General Services Administration and the Bureau of Indian Affairs.

The Materials Test Center at Sandia Labs donated time and equipment to test parts to determine if the locomotive could be rebuilt. They and others made a surprising discovery: Appliances, including the air pumps were in spectacular condition. Hartshorne says he suspects that when Santa Fe stored the locomotive in the early 1950s, officials thought it might be pulled out again for service. The engine was moved into the park in 1956.

Work is proceeding on the engine, including the removal of asbestos from boiler lagging, a dangerous and expensive job that must be done by professionals.

Hartshorne isn't the only one who's enthused. William Hume, state director of policy and planning, and acknowledged railfan, says 2926's group is making great progress, and that he and others hope that state money will be available to the project. New Mexico was the political and financial godfather for the narrow-gauge Cumbres & Toltec Scenic Railroad, Hume says, and he believes this group's chances of getting a steam shop to refurbish the 2926 and to provide a home to 3751 are pretty good.

The greatest obstacle to moving the 3751 to Albuquerque has been the lack of physical security and an indoor storage and work area. The old shop area is derelict and pock-marked with graffiti and vandalism, but it should now be possible to get both engines into the shop and to provide 24-hour security while the area is being rehabilitated.

Bob Kittel, president and operations manager of the San Bernardino Railroad Historical Society, was encouraging but noncommittal about whether progress was far enough along for his group to move the 3751 to Albuquerque after the 2008 season, which includes plans for San Diego trips. "The news is positive," he says. "We are watching and looking forward in anticipation."

The historical significance of the two locomotives is huge. While No. 2926 was one of the last 4-8-4s Santa Fe bought in 1944, No. 3751 was Santa Fe's first 4-8-4, acquired in 1927, as well as Baldwin's first 4-8-4.

The 3751 was modernized in 1941 when it got its 80-inch drivers and roller bearings all around. It not only had the honor of pulling the first passenger train into Los Angeles Union Passenger Terminal on May 7, 1939, (the *Scout*), but it also hauled the last steam passenger train from San Diego on Aug. 23, 1953. It was put into storage, retired in 1957, and donated to the city of San Bernardino.

For 30 years, the 3751 rested in Viaduct Park before the railroad historical society successfully moved her. The group eventually got her to California Steel Industries in Fontana for restoration. Fire returned to her grates Aug. 15, 1991, and she pulled a freight from San Bernardino to Los Angeles after her dedication ceremony Dec. 20, 1991.

For several years, the 3751 was the toast of the railroad, running across the system on trips to Chicago, over the Tehachapis, to the Grand Canyon and elsewhere. She made numerous employee specials and displays.

"Many years ago, I thought we were in the driver's seat," Kittel says.

But an odd thing began to happen about 2002. Freight railroading made a comeback and rail capacity got tighter. The 3751 trips were shorter. Finally, BNSF made it clear that main lines in the L.A. basin were too busy to accommodate a steam locomotive. BNSF is still sympathetic and apparently would help get the engine to Albuquerque, but has made it clear that "'we can't have you moving back and forth,'" Kittel says.

Kittel says he understands BNSF's position and stressed, "We have a lot of friends at BNSF." But the 3751 is getting squeezed tighter and tighter for operating room. Even the Amtrak San Diego line is not a guarantee in the future, even for an engine that can run mile after mile at 79 mph.

Spokane, Portland & Seattle 700

For many years, little Spokane, Portland & Seattle had a hand-me-down relationship with its larger owners, the Great Northern and the Northern Pacific. New locomotives were unknown for many years, at least until the late 1930s when the SP&S was allowed to order its first new Super-Power engines, three 4-8-4s and six 4-6-6-4s.

Three Northerns — 700, 701, and 702 — were the stars. They were assigned to haul the Portland sections of their owners' premium trains. Generally, two of the engines were assigned to passenger service while the third handled freight unless needed when one of regular passenger engines was out of service for shop work or wreck repair.

The Albuquerque, N.M., group rebuilding Santa Fe 2926 removes an air compressor for work. Could this Northern join sister 3751 in steam in a few years? Steve Crise

The 700 once did, indeed, need wreck repair. It hit a rockslide east of Pasco in 1946 and rolled down the side of the canyon. After some time in the Tacoma shops, it returned to service and continued to haul passengers and freight until it was removed from regular service and hauled a farewell-to-steam special in 1956.

The 700 was almost scrapped, but late in 1956 the Union Pacific donated a steam engine to the city of Portland, and the SP&S decided not to be outdone. SP 4449 was added to the display engines shortly afterward. This is the sequence of events that led to the city of Portland owning two of the country's current operating 4-8-4s.

When 4449 was restored in 1975 to haul the American Freedom Train, a volunteer named Chris McLarney, then only 15, was too young to travel along. So he stayed behind and started puttering with the 700. Two years later, at age 17, he attracted others to the cause, and they formed the Pacific Railroad Preservation Association to become 700's caretaker. By 1990, the engine was ready for occasional excursions.

Mike Baccitich, president of the association, says he is optimistic about the 700's future. Since 2002, volunteers have been working to turn the engine's drive wheels and rebuild the trucks. Through donations, ticket sales, and concession sales, the group is doing reasonably well financially, he says.

Like the 4449, the 700 must travel over Union Pacific track to get to BNSF or other friendly rails, but Baccitich says the group has a good relationship with UP people.

Baccitich says he is pleased with the group's relationship with BNSF. The railroad asked that the 700 run a Santa train from Portland to Vancouver for Christmas 2007, and the group was happy to help.

Meanwhile, the major problem is vacating Brooklyn yard and finding a new home. But the 4449 group is leading that push.

Milwaukee Road 261 is a frequent guest on BNSF rails as she was May 19, 2002 at Brook Park, Minn., returning from an overnight trip to Duluth, Minn. Steve Glischinski

Milwaukee Road 261

One word comes to mind for Milwaukee Road 261 and its crew: professional. "Their organizational ability is superior; they are probably the best program in the country," says Doyle McCormack, a real steam professional with Southern Pacific 4449.

Over the years the Minneapolis-based 261 has acquired such a sterling reputation that it can run on almost any railroad. Steve Sandberg, who heads the 261 team, boasts that during the past 15 years, the 261 operated through 16 states from New York to Montana and hauled 275,000 passengers.

Behind the engine's fabulous reputation are several essential secrets. The first of those is to run the engine like a business and to keep the engine in top shape. Breakdowns are bad news on any railroad. Next is to own a fleet of passenger cars. Sandberg has 18 passenger cars, 11 of which are Amtrak-compatible. These cars mean 261 avoids expensive rentals, and they also can be rented to others for profit or become a public relations tool. Any time a railroad official wants a car for a company purpose, all he has to do is to call Sandberg. No charge.

Sandberg makes a point of keeping up with rank-and-file workers who can make or break a trip. For instance, he visited all 49 Canadian Pacific dispatchers who might handle his trains, giving each a 261 cap.

Sandberg's grandfather passed along this love of engines. Frank Sandberg Sr., ran Milwaukee Road trains for 51 years, including several 261 trips in 1946, hauling the *Olympian* between La Crosse, Wis., and Minneapolis. The elder Sandberg died in 1995, but not before taking 261's throttle again, bringing the grandfather-grandson relationship full circle.

Sandberg says a change has taken place over the past 15 years in excursion riders. At the beginning, most were fans. "But nowadays, passengers are interested in nice food," he says. When runbys are announced today, many passengers ask, "'Why would we want to do that?'" he says.

"We've tried to evolve our organization into more of a cross between American Orient Express and Norfolk Southern," Sandberg says. Trips now include waiters, bartenders, and good food, he says.

The 261's time on her current FRA inspection expires Sept. 16, when she'll be due for a major inspection and new flues. The job will take at least six months and cost more than $250,000. However, Sandberg has systematically laid aside enough money to do the job. "We run it like a business does," he says. "We invest in the future."

Southern Pacific 4449

Let there be no possible question as to which of the operating 4-8-4s is the most beautiful. Resplendent in her red, orange, and black semi-streamlined appearance, Southern Pacific 4449 has no competition.

At the same time, the 4449 is run by one of the best: Doyle McCormack, who was a longtime Southern Pacific engineer, and knows how to coax the best out of that beautiful piece of machinery.

The 4449 is one of the last class of steam locomotives that Lima built for SP. The 4449 worked mostly between San Francisco and Los Angeles on the *Daylight*, hauling movie stars, businessmen, and commoners alike. But by the early 1950s, the upstart new diesel had become the wave of the future, and by 1958, 4449 had run her last miles in regular service, mostly out of Bakersfield. SP gave her to the city of Portland for display in Oaks Park, where she sat for 16 years.

In 1974, events took place to bring her back to life. She was needed to haul the American Freedom Train, which was to tour the country in celebration of the American bicentennial. The engine was refurbished, repainted into a red, white, and blue scheme, and moved to Chicago to begin a tour of the country.

In the years since, the 4449 has hauled numerous trips, and among the most famous was a series out of Dunsmuir, Calif., in 1991 to show off the cleanup of the Upper Sacramento River. Chemicals spilled from a tank car that derailed had polluted that waterway, and the SP worked hard to clean up the river. The special ran from Redding to Dunsmuir along the river, then upgrade across the trestle where the derailment happened to Black Butte. It returned to Redding, let off passengers, then ran to Tehama to wye the train and run back to Redding.

Those who were there remember one of the most impressive shows that any steam locomotive has put on in the modern era. As the sun began to set, with the crew within an hour and 50 minutes of the 12-hour law, the 4449 and train had to run 47 miles south on the main line, turn on a wye and return the same distance north for the night. McCormack pulled the throttle back and let her roll. Out on the line, we could hear her coming for miles, and she roared past at a speed I would hesitate to estimate. She turned on the wye in record time, notched

Southern Pacific No. 4449 crosses Trout Creek trestle on a Sept. 16, 2006, excursion from Portland, Ore., to Bend, Ore., via the Columbia River Gorge and BNSF's former Oregon Trunk Line route. She sports her original 1941 paint scheme. John Biehn

out again, and rolled to at stop at Redding with either one or two minutes to spare. That meant McCormack ran 94 miles, turned on a wye and tied up within about 108 minutes. Do the math.

Today, the situation is neither as happy nor as easy as it was in those days. Among other things, SP was absorbed by Union Pacific, which has its own steam program and was not interested in taking on a locomotive owned by someone else. McCormack says he understands UP's position, and praised the UP for allowing the 4449 to remain in the Brooklyn roundhouse.

However, freight traffic is growing in the Portland area and the UP needs to refurbish the Brooklyn yard. That would include tearing down the roundhouse. The UP has given McCormack time to make other arrangements, and he is negotiating for better display and repair facilities for the 4449, the SP&S 700, and other locomotives at a new site in southeast Portland.

Meanwhile, the 4449 group must struggle to find the money to maintain the locomotive and to run trips. The trips make money, but McCormack says his group has a problem that Sandberg and the 261 group have solved. Sandberg has passenger equipment that can be not only used on 261 trips but also rented out for big money

The 4449, on the other hand, must rent that equipment from elsewhere, often from as far away as southern California, Memphis, or St. Louis. The cost per trip is roughly $90,000 — about $300 per seat per trip — taking a lot of profit out of every trip.

In 2007, an odd problem developed that is difficult to comprehend. Suddenly bearings and other lubricated parts began wearing badly. The 4449 crew was using the same lubricating oil as in the past: a Chevron product. However, Chevron had merged with Texaco, which merged with Shell, and under the new company's product line, the oil had additives that needed to circulate through air to remain cool. A steam locomotive, however, is an enclosed machine. Heat was no problem with the old formula.

Now the group uses a new oil product made specifically in small batches for steam locomotives, and the 4449 is rolling smoothly along.

> **Today, the situation is neither as happy nor as easy as it was in those days.**

Union Pacific 844

James Young, UP chairman, president, and chief executive officer, says that anyone worried that his elevation to the top spot might threaten the steam program should rest easy. Young, who took the post in January 2007, says the program will continue.

The UP steam program is covered on pages 16-23 but, in a separate interview, Young made it clear that steam is golden.

Young says that some people might have misunderstood his questioning of everything the company is doing. "I stepped back to look at what we were doing," he says. "Were we really getting value?"

The answer for steam was a resounding "yes." UP steam has run in every one of its 145 years, and that will not end on his watch. In fact, the attention-grabbing value of steam will be exploited even more in the future.

Railroading is entering an era when it must increase its visibility and explain to the public and politicians what it is doing and why. "The steam program fits right into that mode," he says.

Without a doubt, those 4-8-4s are just as powerful as ever!

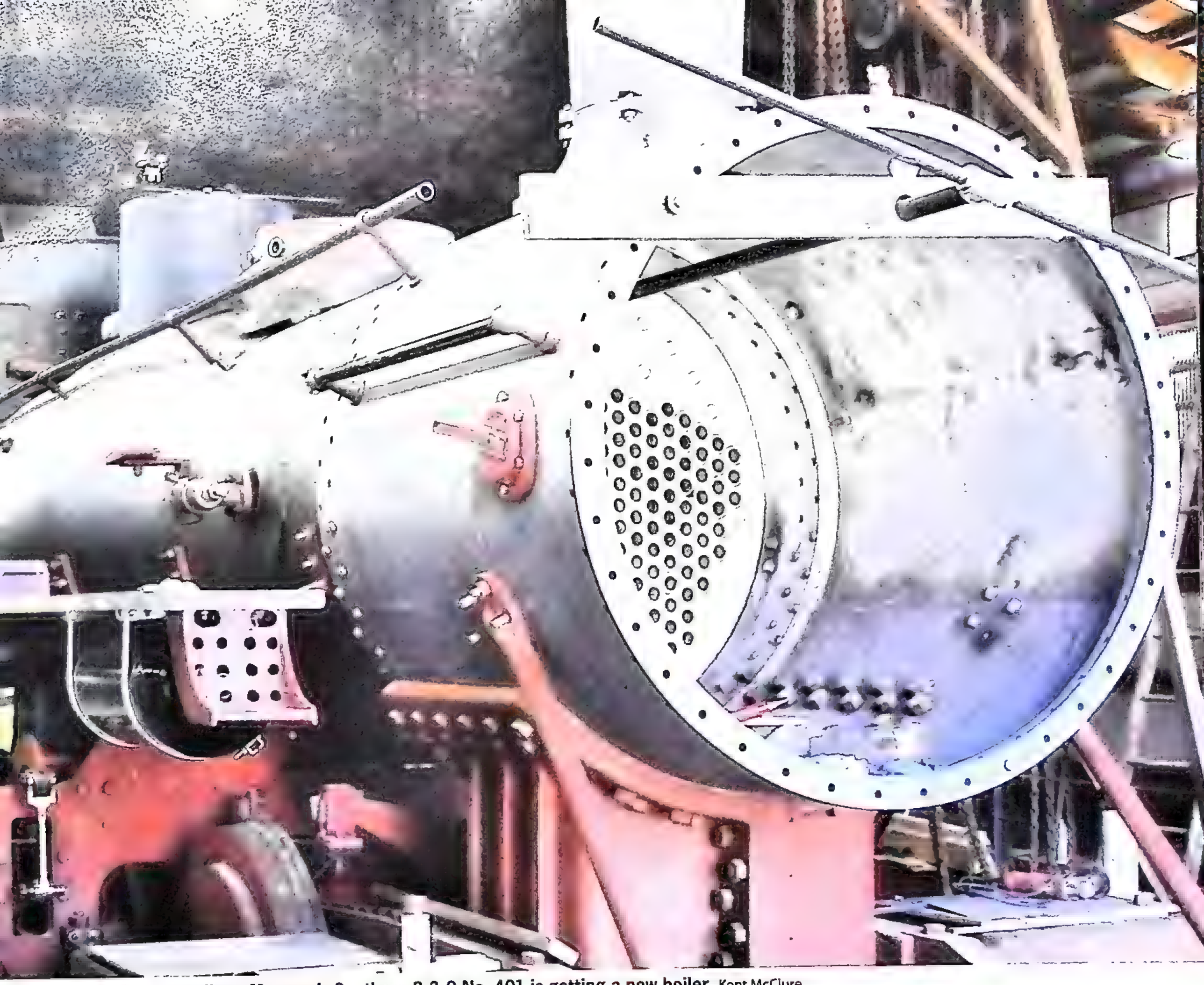
DON PHILLIPS, a newspaper reporter for more than 40 years, is an avid steam fan.

Indiana Transportation Museum's Nickel Plate Road 2-8-2 No. 587 is under rebuild at Noblesville. Joe Bickler

Rebuild or

Is it better to save original fabric, embrace new technology, or can old locomotives run again without losing their historical integrity?

by Peter A. Hansen



Monticello (Ill.) Railway Museum's Southern 2-8-0 No. 401 is getting a new boiler. Kent McClure

reboiler?

It's probably the biggest and most costly repair a tourist line can face: Do we keep patching our steam locomotive's old boiler, or get a new one?

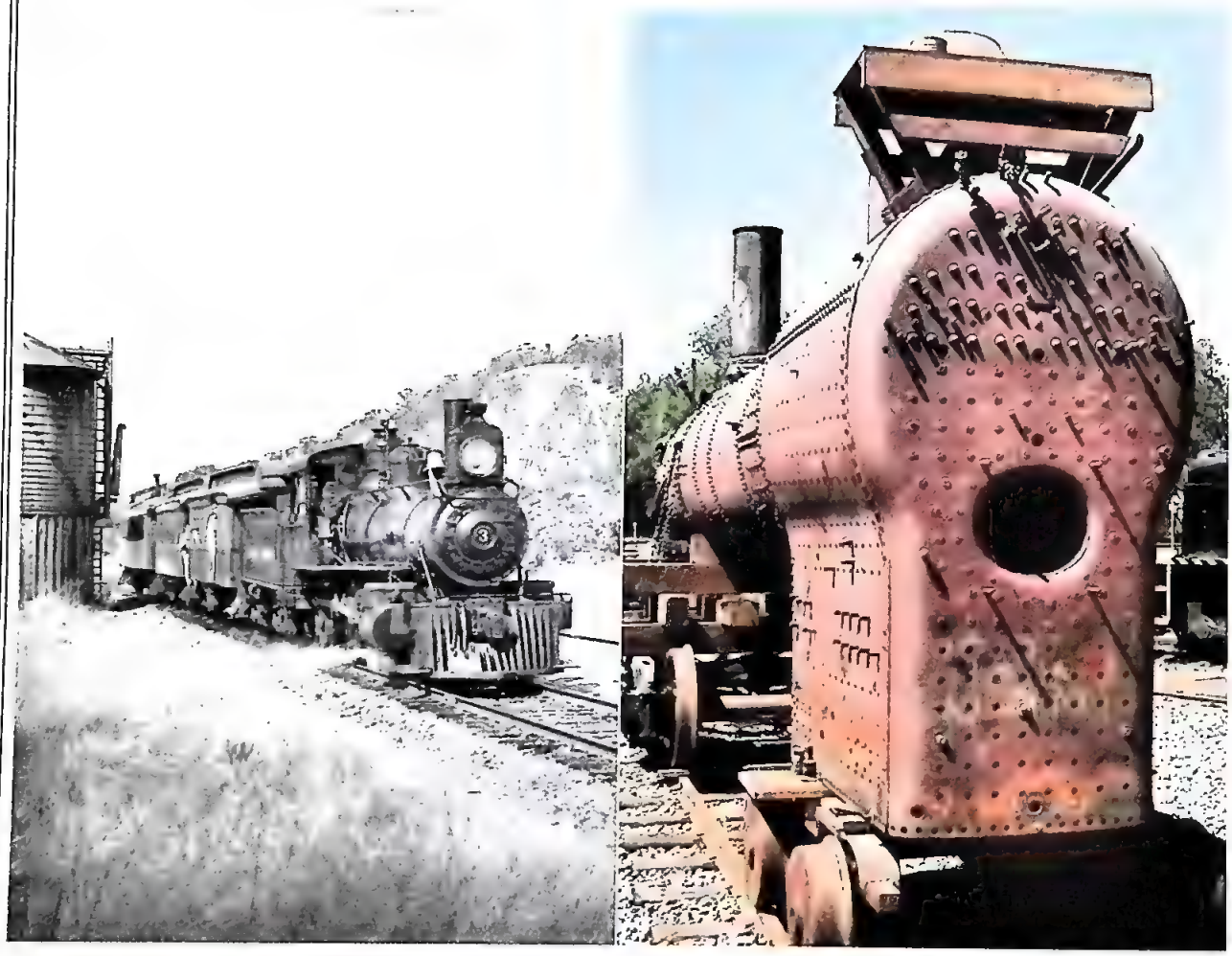
On one side are apostles of the "historic fabric" argument, devotees of saving as much of a locomotive as possible; on the other are the advocates of modern technology, driven more by cost.

The debate is civilized, but the opinions are strong. Most of the people involved like each other and respect each other's thinking — even as they hurl verbal missiles back and forth. It makes for lively discussion, and the discourse is good for the art and science of railway preservation.

The Monticello Railway Museum in Illinois is installing a new welded boiler on its Southern Railway light Consolidation, No. 401, built by Baldwin in 1907.

This engine had seen a hard life. After nearly half a century of service with SR, it ran 15 more years in an Alabama gravel pit with little or no maintenance. Kent McClure, Monticello's chief mechanical officer, says the gravel pit "used dirty water in it and never washed it. The last year they fired it up, water was coming out of it as fast as they could put it in. When we took the tubes out of the boiler, the bottom three rows were

It's a heart transplant for the biggest Hollywood movie star



Among the most photographed locomotives of all time is Sierra No. 3, a Rogers 4-6-0 built in 1891. Made famous for her recurring role in the 1960s situation comedy "Petticoat Junction," the engine has starred in more than 100 Hollywood movies. The engine was heading an excursion for the Railway & Locomotive Historical Society on Sept. 27, 1952, when she pulled away from the Cooperstown, Calif., water tank (left). Today, the engine is dismantled at the California State Railroad Museum's Railtown 1897 in the Sierra shops at Jamestown, Calif. Her boiler sat outside the roundhouse on shop wheels, waiting for a decision on her rebuilding. The verdict for this Hollywood star is that she'll get a brand new welded boiler as part of a major overhaul. Left, Walter H. Thrall Jr.; right, TRAINS: Jim Wrinn

buried in mud from 40 years ago."

McClure, an alumnus of the Grand Canyon Railway, convened his brain trust, including project engineer Dave Marshall and mechanic Russ Fisher, a 10-year veteran of the Cumbres & Toltec Scenic. They decided the old boiler was more likely to hold more unpleasant surprises than water and steam. They contracted with Continental Fabricators of St. Louis for a welded vessel. Five years and $280,000 later, 401 has a new boiler. The process was lengthened because the museum agreed that Continental would work on it during slack times. Monticello is working to complete the locomotive, and it could be under steam this year or in 2009.

Cost considerations were a big part of Monticello's decision. While there was no way to be sure, they concluded that repairing the old boiler would probably cost more. And even if the up-front cost hadn't been an issue, McClure still worries about what unknown problems might have surfaced later. "We'd still have had a 1907 boiler."

Historic fabric

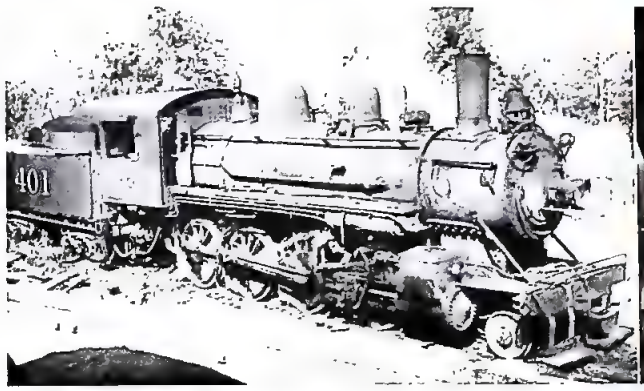
To those on the other side of the debate, having a 1907 boiler is exactly the point.

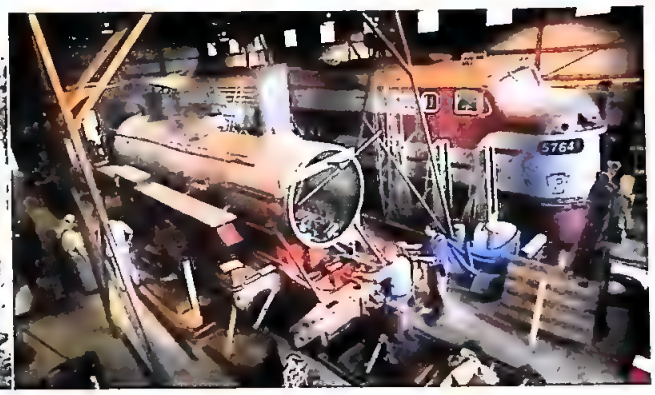
Linn Moedinger is the president and chief mechanical officer at Pennsylvania's Strasburg Rail Road, and he's a leading advocate for the "historic fabric" point of view. A thoughtful and soft-spoken man, he is one of the foremost experts on steam, and his shop is among the most capable anywhere. There's little he can't do.

Moedinger understands the cost argument, and he knows better than anyone how many secrets an old boiler can hold. "If you do this stuff right, it should either cost about twice as much as anyone expects it to, or you're cutting corners you shouldn't be cutting," he says. To him, a locomotive's historic fabric often trumps other aspects.

He looks across the shop at Rio Grande Southern No. 20, an 1899 Schenectady Ten-Wheeler. Part of the Colorado Railroad Museum collection, it's being restored to operating condition at Strasburg. "There are a number of people out there," he says, "who will appreciate the fact that when No. 20 is

This 101-year-old will live again with a new boiler





Southern Railway 2-8-0 No. 401 was nearing the end of its working life at Alabama Asphaltic Limestone Co., in Margerum, Ala., on Aug 27, 1961. The 1907 engine was last under steam (but did not run) on Aug. 28, 1962. In the late 1960s, she went to Illinois to become part of a museum, and for many years, she was on display in the collection of the Monticello Railway Museum. After studying the engine carefully, the Monticello group chose to build a brand new boiler for the engine over rebuilding the old one. Workers are busy at the Monticello shop with work that could see the engine operable late this year or in 2009. Left, Thomas Lawson Jr.; right, Steve Smedley

steaming, that it's really No. 20. It's not a replica that's built to look like No. 20. There are parts on that engine that traveled across trestles, over Lizard Head [Pass]." It's the same with Pennsylvania 4-6-2 No. 1361, whose restoration has been ongoing for years at Steamtown. If restored to operation, "it'll be important to know that it's the same engine that might have pulled the *Broadway*," Moedinger says.

Asked if he's a romantic, Moedinger pauses and replies, "Very much so." He speaks of the boiler as the essence of a steam locomotive, and for him there's an almost spiritual connection with the metal. "The essence of the locomotive can be preserved, and, with careful operation, an awful lot of it can be preserved for a long time — not all of it, but most of it. But if you build a replica, that is what you have."

The historic fabric argument aside, Moedinger insists he's ready to make a cold-eyed calculation and go with a new boiler "in a heartbeat" if he must. "When you get close to the break-even point, that's where the decision becomes very difficult." But for him, it's a matter of orientation: He prefers to see the old boiler as usable until proven otherwise, and he'll make the necessary repairs to keep it going.

Possibly because his shop is so well-equipped and so good at its work, jobs that might be difficult for others don't faze Moedinger. Strasburg also doesn't have to pay a markup on material and labor for work on its own locomotive fleet, which includes four operating engines. The road's Canadian National 0-6-0 7312 "has probably 50 percent of her firebox new. [Ex-CN 2-6-0] 89 has a new roof sheet, crown sheet, lower side sheet, upper flue sheet, new rear-end braces, a bunch of new front end braces. [Ex-Great Western 2-10-0] 90 has a mostly new flue sheet, about two feet worth of new side sheets, and new dry pipes. All of that was much more economical than getting a new boiler."

Steve Lee, the boss of Union Pacific's corporate steam program, doesn't buy the historic fabric argument. He's contracted some of the work on UP's two steam locomotives to Strasburg and has a lot of respect for Moedinger but, Lee says, "From the moment these locomotives hit the property, the railroads began making changes to them. They'd find something didn't work like it ought to, or something had just been developed and they should use it."

He offers a case in point with Union Pacific's 4-8-4, No. 844. In regular service, enginemen complained about smoke obscuring their vision, so UP's Northerns were retrofitted with their now-characteristic elephant-ear smoke deflectors. Mars lights were another alteration. "Railroads made changes all the time. As far as I'm concerned, we're just carrying on the tradition," says Lee, ironically invoking a word that's generally associated with the other side.

Bill Withuhn agrees. As transportation curator at the Smithsonian Institution and co-chair of the Federal Railroad Administration's Steam Standards Task Force that re-wrote safety rules after the 1995 boiler explosion on the Gettysburg Railroad, his voice is widely respected. Railroads altered their equipment from the beginning, he says. As Exhibit A, he offers America's oldest surviving steam engine, the *John Bull*. Built as an 0-4-0, it was prone to derailment, so Camden & Amboy added a two-wheel lead truck shortly after it was placed in service. Now enshrined in an honored place at the Smithsonian's National Museum of American History, the *John Bull* sports its third set of wheels and its second valve gear since it was built.

"We're talking about the economics of a corporate environment," Withuhn says. "When things aren't done in the most efficient way, the shareholders don't make as much money. The Camden & Amboy's exclusive charter to run trains between the nation's two largest cities [New York and Philadelphia in 1831] wasn't worth anything if they couldn't get a train over the road. So what did they do? They added a lead truck."

Reading's famous T-1 4-8-4s are among the most extreme examples of locomotive alteration. Their boilers originally belonged to the road's I-10sa class 2-8-0s. Reading's own shops lengthened the boilers but kept the grate area the same — and then placed them on new running gear with larger drivers. "Nobody mourns those big 2-8-0s they turned into Northerns," Lee says.

Monticello's No. 401 contains parts from a variety of Southern Railway engines, including an 0-6-0 switcher and a Ps-4 Pacific passenger locomotive. As nearly as anyone can tell, Southern did all of the work. "Baldwin put serial numbers on almost every part," McClure says. "So we'd write down the serial numbers and research them. All the drivers on our engine are from the 389. The main axle is from the 278 — a whole different class. So here we go, getting into this historic fabric business: Which engine do you want to preserve?"

Legendary Rio Grande Southern 20 will retain her historic fabric

Rio Grande Southern 4-6-0 powers a May 30, 1947, special out of Ridgway, Colo., bound for Dolores on the fabled narrow-gauge railroad. Built by the Schenectady Locomotive Works for the Florence & Cripple Creek Railroad in March 1899, she was sold to the Rocky Mountain Railroad Club in 1952 and ended up at the Colorado Railroad Museum in Golden. After an anonymous donor contributed $400,000 to the museum for the engine's restoration (and $100,000 additionally as a maintenance and repairs endowment), she was moved to the Strasburg Rail Road for rebuilding, where her boiler is under repair now. Top, Otto Perry; three photos, TRAINS: Jim Wrinn

The march of technology

Delaware & Hudson installed a welded boiler on one of its 2-8-0s during the 1930s, and it was a success. But time was already running out for steam, and most railroads didn't see a point in adopting the technology. The war years were another factor: Work had to be done fast, and nobody had time to learn new ways of doing things.

"Everyone knew how to rivet, and the rivets were easy to find," Lee says. "Today, that situation has completely reversed itself. Welding is the only thing that's accepted, and riveting is a lost art. Pressure vessel rivets are almost impossible to find. They almost always have to be made. Every boiler manufacturing shop, every inspection agency is thoroughly familiar with welding. There are a lot of arguments against riveting, and very few in favor of it. Welding is a lot less expensive." And, he adds, "If steam had lasted another 10 years, all the boilers would have been welded."

Moedinger counters that steam didn't last another 10 years, so we still don't know how welded boilers will perform in the long run. On the other hand, the methods he uses were time-tested by major railroads in the day when steam was king.

The issue isn't per se that a boiler is welded, Moedinger says. The problem is that you can have square corners inside a welded boiler, which can create choke points and uneven circulation. "That's an argument no one addresses, and if they do talk about it, they dismiss it by saying, 'We don't run our engines enough for it to make a difference.' Well, if that engine is still running a hundred years from now, it'll make a difference to someone. We're advocates of doing it right the first time."

Technology sometimes marches back-

ward, in Moedinger's view. In particular, he's not a fan of today's steel, which is less pure than older steels, due to the amount of recycled content.

"How is it going to perform in the long run? Will its flexibility be such that cracking will appear? Every time you try something new, it can be a problem. Railroads were trying nickel steel boilers in the 1930s, and they were scrapping them within a year," Moedinger says.

Corrosion resistance is the main problem with modern steel. "One of the biggest killers of boilers is corrosion," Moedinger says. "New steel is so bad, we gave up on carbon steel for boiler jackets. We use stainless-steel cylinder jackets, too, and 90's tender is 100 percent welded stainless steel." (He can't use stainless for anything in the boiler because it's prone to cracking during repeated heating and cooling — and it's illegal for that same reason.) "We find that flues don't last nearly as long. Our engines have heat lamps in them 100 percent of the time when they're not being used, and that's to prevent condensation. And even then, we still get blisters on some of the flues, and it's strictly a function of the steel. We're using stainless steel for anything that could corrode, wherever we're allowed to."

Gesturing toward RGS 20, he says, "These materials have proven themselves in more than 50 years of operation in pretty tough service." He'll use as much of the original fabric as he can.

Makeover for a movie star

Consider the case of Sierra Railroad 4-6-0 No. 3. Based at Railtown, the California State Railroad Museum affiliate in Jamestown, Calif., the 1891 Rogers product has probably appeared in more films and television shows than any other locomotive.

Last year, Railtown employees determined the engine would need a new boiler. The Ten-Wheeler was built with a lap seam boiler, in which the courses overlap each other like tubes in a telescope. Lap seam boilers are an artifact of 19th century manufacturing practice.

"As the boiler stretches, it tends to bend the joint," Withuhn says. "If you pull straight in opposite directions on the seam, the larger diameter will bend up a little, and the smaller diameter will bend down a little. What this means is that every time the boiler goes from hot to cold, there will be bending in the seam." Lap seam boilers were superseded by butt-strap seams. As the name suggests, boiler courses were butted together, with rivets driven through straps that overlapped the seam. The resulting joint was much more durable.

Railtown and CSRM faced a choice: Rebuild the boiler with the original lap seam, install a different seam, or get a welded boiler. After Matt Austin of Hawaiian Steam Engineering performed a two-day assessment, CSRM chose to go with a welded boiler. Strasburg has completed technical drawings for the new boiler, and is in the running for the contract to build it, which shows that Moedinger is prepared to build a welded boiler, even if it isn't the preferred practice at Strasburg.

White Mountain Central's wood-burning, two-truck Climax No. 6 was built in 1920 and received a new boiler in 2005. A company called Boilersmith in Seaforth, Ont., made the replacement for the engine that's in steam at Lincoln, N.H. Dave Crosby

"We thought there would be bigger issues with a repair," says Pam Horan, executive director of the CSRM Foundation. "We were afraid of what we couldn't see." Durability was another key factor, given the stresses on lap seam boilers.

Though Sierra 3 is getting a new, welded boiler, it will be indistinguishable from the old one, once the boiler jacket goes on. (The old boiler will become a display at Railtown, enabling visitors to see lap-seam technology first hand.)

Ultimately, fear of the unknown and durability considerations are both about cost. Monticello decided on a welded boiler for the same reasons. Monticello, too, worried about unseen problems, particularly given the abuse their engine had endured in the Alabama gravel pit.

Moedinger agrees that it's hard to know what a restoration will entail before the engine is torn apart. He's one of the best in the business but admits, "I've never been right on an estimate yet." A margin of error in the 10-20 percent range is considered good. He hastens to point out, however, that it's possible to misjudge the cost of a welded boiler, too. Continental Fabricators underestimated its cost on the Monticello job, Moedinger says. (Continental declined comment for this story.)

"I can see where you could get some really nasty surprises with a new boiler, just because it's being built differently, and none of these boilers have seen significant enough service for us to know how they'll hold up," he says. "Then you throw into the mix that you're working with a shop that doesn't have experience with fire-tube boilers, not familiar with the characteristics of expansion and contraction in the firebox."

"One rule of thumb is that you'll find more than you thought you would," Lee says. "No matter what you do, it will be more expensive and more time-consuming than you thought it would be."

So what's a museum to do when faced with the prospect of major boiler repairs? Powerful arguments exist on both sides of the rebuild-versus-new question, after all.

It's a question every steam operator needs to answer, based on cost, durability, and yes, even conscience. But there's one consideration on which both sides agree.

"Don't be cheap," Moedinger says. "Do it right. At the end of the day, it costs what it costs. I don't think there's a right or wrong way as far as whether to build new or not, but you can do either one poorly."

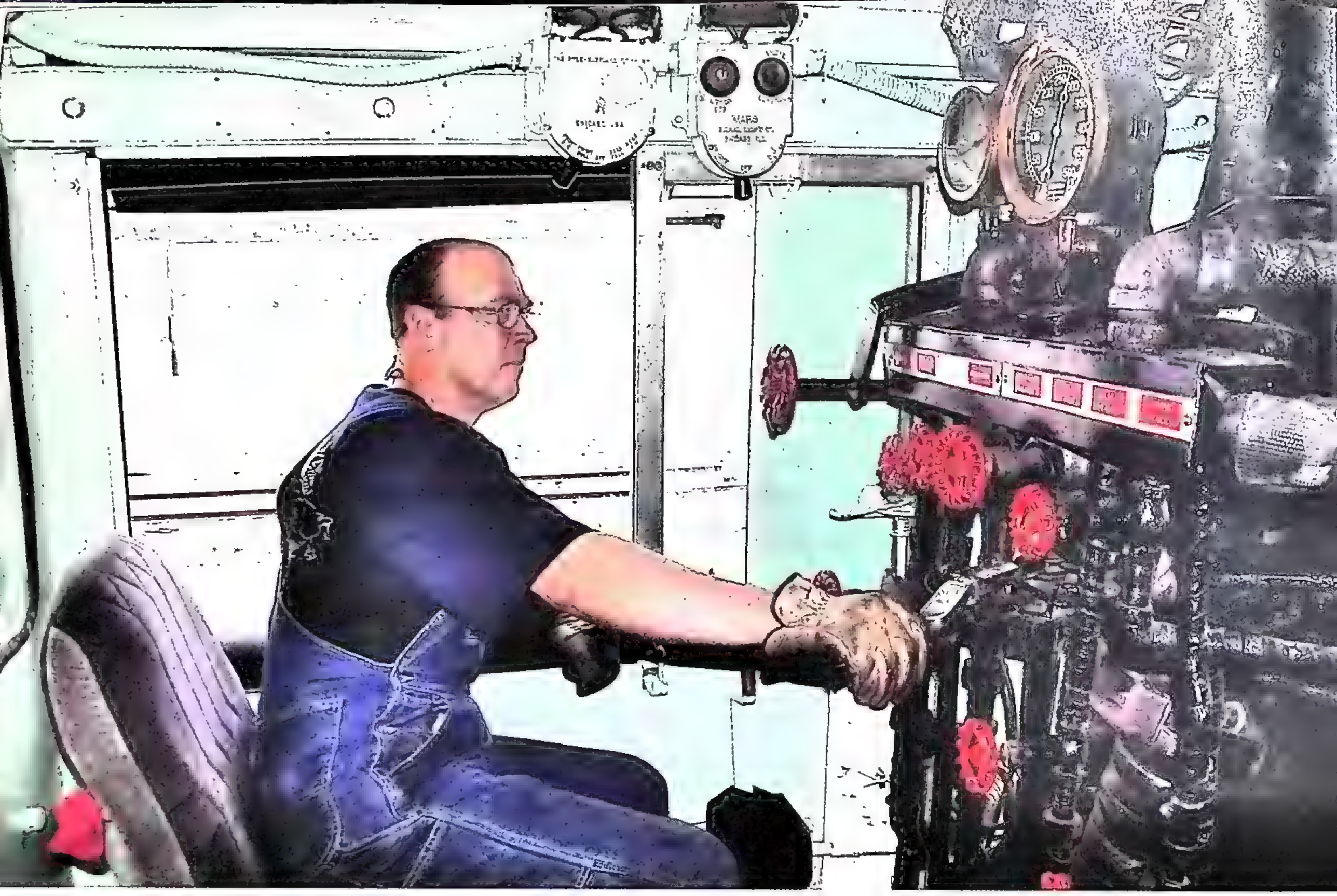
Lee agrees with the need for quality, even if his methods sometimes differ. "I'm not putting it back together just to run it next year. I'm putting it back together for someone else to run 30 years from now."

Moedinger echoes that thought and says, "It's going to come back and haunt somebody if you do a crappy job."

This is not a religious war; it's more like a friendly sports rivalry. Lee refers to the "die-hard druids" who insist everything has to be the way it was. For his part, Moedinger just shakes his head.

"I'm a practical man," Moedinger says. "Our job is to provide — No. 1, safety — and No. 2, an authentic experience, so I try to balance them.

"If I have a boiler that's 85 percent good and 15 percent bad, odds are that I'm going to replace the 15 percent. I'm not going to replace 100 percent when 85 percent is good."



4449's secret language

On the 'Daylight' communication is like a puff of air

David Lustig
PHOTOS BY JIM WRINN

When it's out on the road working an excursion, Southern Pacific 4-8-4 No. 4449 will usually have more than just engineer Doyle McCormack and his fireman in the cab. Road foremen, pilot crews, and dignitaries often join them for the rare opportunity to watch a professional steam locomotive crew at work.

It can be an exhilarating and fun experience, but if you look carefully you may notice a silent interplay between crew members. Maybe at first you thought you saw something but then quickly dismissed it as your imagination. Then you heard a loud hissing sound for a moment and saw the two crewmen look at each other. One drew an upside-down "U" in the air. You're not imagining things. You just saw McCormack and his fireman, usually Pat Tracy or Jack Wheelihan, talking to each via hand signals. In this case, one telling the other the train is approaching a tunnel.

Railroading has always been and will always be a potentially dangerous working environment. If there is one overriding consideration it is safety and the ability to communicate clearly. A regular crew qualified to work a specific line knows where trestles, tunnels, grades, and signals are. But what happens when you're working an excursion on track you don't normally operate on? That's when you need a little extra help.

"Every time I make a throttle change, either up or down, I'm careful to make sure the fireman knows I'm going to do it," McCormack explains. "I use the air valve that controls the air horn on the front of the engine to get the fireman's attention. When you depress it, it will let air escape back in the cab and make a loud hissing noise. So, many years ago, I told the fireman that if you hear me hit the air horn valve twice, you know I'm going to make a throttle change. It's a way to get his attention. When he looks over, I will make a sign on what I'm going to do or what I see."

Fireman Pat Tracy (left) adjusts the firing valve, while engineer Doyle McCormack tugs the whistle. The air lever that provides communication is marked.

McCormack says that if he is going to advance the throttle, he'll hit the air valve twice and make a gesture as if he's going to pull back on the throttle. "If I'm going to shut off, I'll put my hand as if I am going to push something away from me."

McCormack has about half-a-dozen signals in his mime dictionary. One is when 4449 approaches a curve where only the fireman or engineer can see an approaching tunnel or signal — that's when the upside-down "U" gets drawn in the air.

Another hand gesture is calling the indication of trackside signals.

"There are various combinations of colored lights," McCormack says, "and the rules state that you will communicate with everybody in the cab. "We make sure we comply with that because we don't want anybody in the cab to miss a signal, which could get us killed. Everybody has a clear understanding of what is happening.

"If it's a green signal," he explains, "I put my index finger in the air and shout 'Clear block.' If it's a flashing yellow, I call that flashing yellow and make a fist and release it, working my hand like I'm exercising. If it's a straight yellow, I hold my fist up and also call it."

McCormack explains that people in the middle of the cab who cannot see out the front, such as road foremen and pilot crews, need to know this information.

Jack Wheelihan, one of McCormack's regular firemen for more than three decades, says McCormack developed these signals during the 1970s when the two were on the American Freedom Train, a touring display train for the U.S. bi-centennial.

"Many times you had so many people riding in the cab, the fireman couldn't see across on what the engineer was doing," Wheelihan says. "With an oil-fired steam engine like the 4449, with every single change the engineer makes, the fireman has to do something with the oil flow.

"If Doyle is going to increase speed, he'll tap to indicate he's increasing the throttle. Even if there are a lot of people in the cab, you can look over and see the upper portion of the throttle quadrant and see how far he's advancing it, and you know what to do as his fireman."

Wheelihan says that when Doyle's going to drift (roll without power), he'll give you two hands up, the palms of his hands facing forward. Translation for the fireman: Cutback on the oil, and crank up the blower to keep smoke from filling the cab.

McCormack's other regular fireman is Pat Tracy, who joined the team just after the 4449 came back from the Freedom Train.

"The way that Doyle has always worked this is that the fireman and engineer are a team," Tracy says. "Running down the railroad at any given point, the fireman may have views of signals he doesn't. You can't worry only about boiler pressure.

"Your ears get trained to hear the initial tap of the air release," Tracy says. "You might hear someone call a clear, or a flashing yellow, and you'll look across the cab and pick up Doyle's hand movement."

Tracy also adds that McCormack likes a clean firing job. When you're up there [in the fireman's seat], you'll find that you'd better have a thick skin. You do your job badly and you're going to know it."

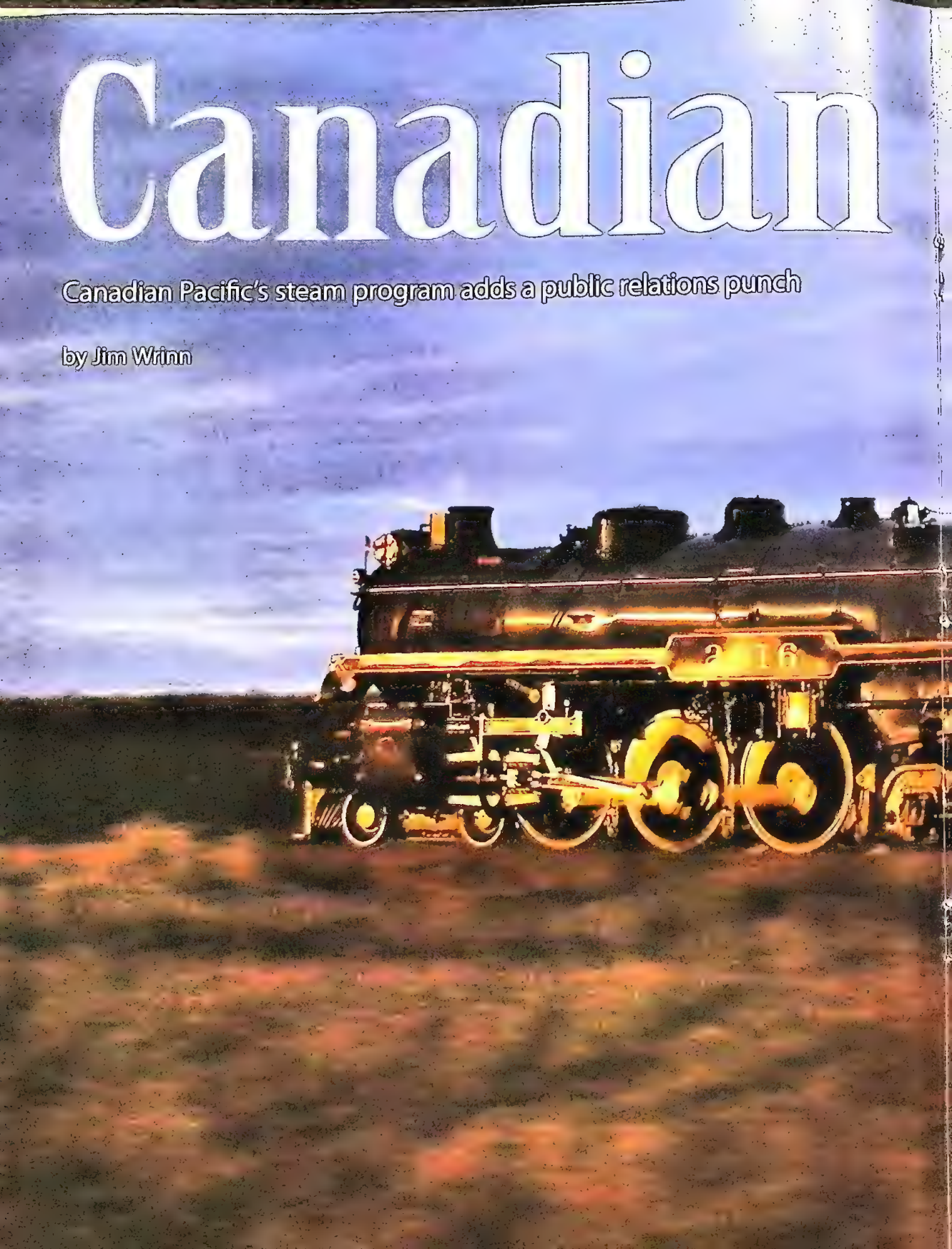
"We've been doing this for more than 30 years," Wheelihan says. "We don't talk. We call the signals. We have had a lot of really good times on that engine, and when we get into it, there's nothing much said."

DAVID LUSTIG is a freelance writer in the Los Angeles area who has written extensively about Southern Pacific 4449.

Canadian

Canadian Pacific's steam program adds a public relations punch

by Jim Wrinn



Steam!

Canadian Pacific's "Empress" 2816 rolls an excursion westbound near Blackbird, Minn., on Sept. 22, 2007. Harold Edmonson

Canadian Pacific 4-6-4 No. 2816 eased to a stop at Sturtevant, Wis., on the Saturday of Labor Day 2007 weekend in front of a huge crowd ready to see "The Empress." They were not disappointed with this living legacy of Canadian steam.

Simmering quietly as passengers disembarked for lunch, this red, black, and blue Hudson type stood proudly on the former Milwaukee Road main line. My quick inspection showed polished side rods, an immaculate boiler jacket, and a face of a regal entity, with a feedwater heater perched high over her smokebox that holds a triangular number board, and a continuous handrail curving below the headlight.

Such a refined machine always captivates. CP steam, in particular, mesmerizes for several reasons. Perhaps it's because CP steam survived so late. Or perhaps because so many CP engines were built late in the steam era, and thus were modern. Or it could be because CP steam has found its way to so many places in so many incarnations. (Remember, 2816 is a Hudson, but not a streamlined Royal Hudson like No. 2860, which has been restored in British Columbia, and No. 2839 of Southern Railway excursion fame in 1979-1980.)

Between 1881 and 1960, CP owned and operated 3,257 steam locomotives. The railway built 1,056 of them in its own shops in Montreal, including this non-steamlined Hudson. Of the 48 surviving CP steam locomotives, most are on static display; a handful run in tourist or museum service, but only No. 2816 runs on CP's own account.

CP's steam program is noteworthy. The 2816 and her roving train represent the only full-time corporate steam program in North America besides Union Pacific's [pages 16-23], whose unending devotion to steam has been an institution in railway preservation and Class I railroad public relations since the end of regular-service steam.

Moving into its seventh year in 2008, Canadian Pacific's program is set to join the ranks of long-lived corporate steam offerings, having survived its first serious challenge following the May 2006 retirement of its founding advocate, Chief Executive Officer Rob Ritchie. The program has the blessing of Ritchie's successor, Fred Green.

At this point, the headlines for CP's steam program are about expanding its coach fleet and accomplishing the train's mission. After the railway retrieved No. 2816 from Steamtown in Scranton, Pa., and funded an extensive 30-month overhaul, the engine made its inaugural runs in 2001. Built in 1930 and made into "royalty" by the railway with the title of "The Empress," she performs like a champ, says Bill Stetler, CP's steam program manager. He adds, however, that "you can have all the steam locomotives in the world, but you can't fulfill your agenda without passenger cars."

For that reason, he's working to expand his fleet of 11 cars — which include support cars, a sleeper, and an office car — with more coaches. This year, two former Amtrak cars, RPCX 5534 and RPCX 5503, will join the train's two former Canadian National lightweight coaches, CP 101 and 102.

CP leases additional cars as needed. In 2007 for the train's extended outing to Chicago, CP tapped the resources of the Minneapolis-based group that operates Milwaukee Road 4-8-4 No. 261, which has 18 cars, is willing to lease them out, and is "on-line" for CP. This interest in coaches does not necessarily mean CP's program will offer more public excursions, but it does give the program more flexibility.

The late summer 2007 Chicago tour, which began and ended in CP's home base of Calgary, Alta., included the two extended inbound and outbound ferry moves plus excursions out of Chicago and Minneapolis.

Multiple missions

The tour showcased a slew of good examples of the steam crew's outreach efforts, or "Community Connect," as Canadian Pacific couches it, that the railway hopes will win it new friends. Designed to impress folks not with the railway are public excursions such as the Labor Day weekend ones from Franklin Park, Ill., to Sturtevant. When the engine makes appearances in CP's on-line communities, it becomes an irresistible banner for CP that always draws a crowd.

"You can show the people all the SD90s you want, but they don't have the personality of a steam engine," Stetler says.

When the train carries CP employees on an outing, it provides an opportunity for them to see their company from a new perspective. "Another thing the train is excellent at doing is building business relationships," Stetler says. The Chicago area rail superintendents organization, and another group of railroaders working to solve congestion problems in Chicago, were CP's guests on the 2816's train last September. The train provided a great introduction to CP for them all, one that drew letters of praise to company officers locally and all the way to the top.

Operating excursions helps offset the cost of the program, which falls under CP's

CP's steam train looks great regardless of venue. A photo charter crosses the St. Croix River on the former Soo Line at Osceola, Wis., on Sept. 6, 2007 (top), while another charges west on home rails at Eldon, Alta., on May, 1, 2006 (right). In charge at all times is Bill Stetler (far right). Top: TRAINS: Jim Wrinn; right, Bill Rala; far right, Jeff Mast

Steaming around the famous Morant's Curve in Alberta, 2816 performs on a May 2006 photo charter by Bill Raia. Keith Schmidt

Doing what steam does best — drawing a crowd — 2816 backs past passengers before loading at Franklin Park., Ill., on Sept. 1, 2007, for Sturtevant, Wis. J. David Ingles

public relations department. Leslie Pidcock manages the department, and Mark Seland, director of communications and public affairs, oversees the steam program.

So each year, you'll find No. 2816 and her train out on the CP system. Many trips take place in the Calgary area, while Vancouver, with its run through the Canadian Rockies, is another popular destination.

With only one engine and a small staff of both full-time and part-time employees, who come from near and far as needed, the program is suited for an annual stretch of 5,000 to 8,000 miles. Stetler knows all the train's details, from the lubricating grease on the engine (if he had to do it over again, he'd switch to oil lubrication) to the food served on-board. He's the hospitality manager, the steam engine manager, the car shop manager — you name it. "I love being the car shop manager. You can't believe how many screws there are in every coach window."

Stetler is a California native who was a locomotive engineer for Amtrak, Burlington Northern, and Union Pacific. His steam resume is just as expansive, with time on the Bay Area's Southern Pacific 4-6-2 No. 2472, the L.A. area's Santa Fe 4-8-4 No. 3751, and on Portland, Ore.-based SP 4-8-4 No. 4449.

When 2816 rolls to a stop, an army of workers tends to her running gear lubrication needs, as this crew is doing at Lake Louise, Alta., in May 2006. TRAINS: Jim Wrinn

Fireman Al Broadfoot enjoys 2816's incredibly immaculate cab. TRAINS: Jim Wrinn

Each engine provided a chance to learn. "It takes a level of expertise and exposure to really understand key things," he says. "You can take anyone and make it go, but teaching someone to know when they're in trouble is different; that takes experience. You've got to know when you need to stop because something is wrong."

People and a clean machine

Stetler came to know the Hudson even before she was ready. He worked on her boiler in Doyle McCormack's steam shop in Portland, and the 4449's boss says Stetler has mastered one of the most difficult balancing acts of any mainline steam operation. "He's a good engineer, and he's a good mechanic," McCormack says. "He's good in the field, and he understands what management wants. There isn't anything he can't do."

Stetler's assistant is locomotive engineer Jonathan Morris, 26, who is learning fast the ways of mainline steam after a background in Canadian tourist railways. Al Broadfoot, who worked on the Hudson's restoration and, before that, with BC Rail's steam program, is often found in the shop. Rob Stag is a full-time mechanic, whose specialty is the train's passenger cars.

Work on the Hudson and her train takes place on the three 120-foot-long tracks of an 18-stall, 1912-vintage car shop that's part of CP's Ogden Yard in downtown Calgary (the rest is managed by Alstom and in use by CP). The shop has lathes and vertical boring machines necessary for such a program, but wheel-turning, quartering, and other specialized jobs are outsourced, as is typical with most steam operations today.

What is atypical of many steam operations is how clean No. 2816 is. Everyone remarks how the Hudson, with its blue boiler jacket and red tones, shines no matter how many miles she's put behind her that day. Climb up the gangway, and you'll learn that it's no different inside the cab, either: Brass piping and chromed gauges gleam.

Crew members take every opportunity to polish their charge, and that's part of this engine's spotless reputation. The other part is the Hudson's fuel. Her conversion from coal to oil upon restoration was a giant step toward a clean stack and ease of fuel delivery, but her subsequent switch to diesel fuel carried that another step.

Yes, this steam engine burns diesel. Thick bunker oil, Stetler says, was difficult and expensive to get everywhere except on the Pacific Coast, where it is more plentiful because of ocean-going ships. Stetler changed 2816's fuel to reclaimed waste oil in 2002, but the following year on the road, when the fuel truck didn't show up, Stetler took on a load of diesel fuel ... and has never looked back. "The engine doesn't care what it's burning," he says. "We were worried originally about the viscosity, but the BTUs are there." Mark that up as another attribute for No. 2816. Wherever she goes on CP rails, she uses the same fuel as the GEs and EMDs she passes at every engine terminal.

So, this clean steam team will keep on rolling literally — 320 miles between water stops, depending on how hard the engine is working (and thanks in part to its 23,000-gallon canteen from a Delaware & Hudson 4-6-6-4) — and figuratively: The company is already planning to make the steam train a big part of its presence when the 2010 winter Olympics are in Vancouver.

Stetler sums up the Canadian Pacific steam program philosophy in a single sentence that speaks volumes: "If an organization knows where it's been, then it knows where it needs to go." Amen to that.

CP 2816 West cuts through the Rockies at Gap, Alta., in May 2006. Chris Bost

Have engine, will travel

The fun and frustration of itinerant steam

by David Crosby

While diminutive in size, Flagg Coal Co. 75 has covered a lot of ground since its restoration in 2002, far more than many larger engines. This 0-4-0T is one of a growing number of steam engines that are taking the show on the road, bringing the magic of steam to other institutions. In its case, that means going on jaunts several states away from its home at the Steam Railroading Institute in Owosso, Mich.

Flagg Coal 75 owners John and Barney Gramling, a father and son team from Ashley, Ind., are on a mission to provide new generations with the opportunity to learn about and enjoy steam railroading through the operation of this engine.

The practice of taking an engine from one location to another in a traveling show of steam power is and has been commonplace in England for years, but only recently has taken root stateside. "We're excited by the opportunities to visit other museums and tourist railroads, which have allowed us to share the steam locomotive experience with a much larger audience," John Gramling says.

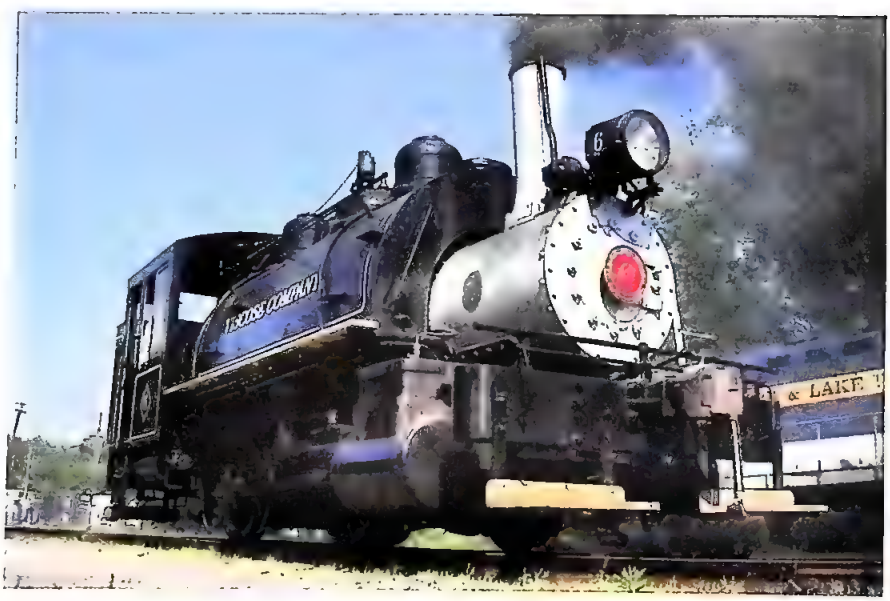
Ohio Central's ex-Canadian Pacific Railway 4-6-2 No. 1293 made a weekend guest appearance on the Byesville (Ohio) Scenic Railway, pulling short excursion runs in June 2007. David Crosby

Flagg Coal Co. 0-4-0T has made a name for itself as a roving ambassador of steam. It's in Dennison, Ohio, in August 2004, on Ohio Central. Thomas Binger

A wide audience is perhaps an understatement. In the past three years this ambassador of steam has been trucked to more than a dozen events in places like Dillsboro, N.C.; Parrish, Fla.; and Connersville, Ind., often making repeat visits. The Indiana venue is the Whitewater Valley Railroad. Engine 75 first visited Connersville over Labor Day weekend 2006, and the event was well enough received that it returned in 2007.

"A traveling steam engine offers us the chance to immediately have steam without all the long-term costs and hassles," says David Farlow, Whitewater Valley chief mechanical officer. Farlow also notes ridership soared and gift shop revenue rose, a trend that follows the 75 on its adventures. As for the locomotive's diminutive stature, Farlow says: "It is a small engine with limited range on water, so this has influenced the operational plans, but nothing we found difficult to overcome." He adds, "If it were much larger, though, the costs to move it would make the program completely out of the question."

As Allan Siegwarth of the Pacific Locomotive Association of Sunol, Calif., notes, the relative size of tank engines is a huge attribute. In 2002, the association packed up its Quincy Railroad 2-6-2T No. 2 for a trip to the Sierra Railroad in Oakdale, Calif. "The Quincy 2 may look funny when coupled to a coach or boxcar, but it turns out to be an asset for transport because the loaded truck is still two feet below being an overheight load," Siegwarth says. Also, at 60 tons, the engine is still under the weight limit for most standard semi-trailers, further simplifying matters. During the visit to the Sierra Railroad's "Iron Horse Roundup," the engine ran three days of excursions, including doubleheaders with Sierra 2-8-0 No. 28, which had traveled in from Railtown 1897 State Historic Park in Jamestown. Siegwarth calls it, "the experience of a lifetime."



The newest member of the roving steam club is Viscose Co. 0-4-0T No. 6. The engine visited the New York & Lake Erie on July 7 and 8, 2007. John Gramling

In 2002, Quincy 2 was the association's only operating steam locomotive on the Niles Canyon Railway, and many members had yet to be involved with the operation of doubleheaded steam since the group's last multi-engine steam-up in 1984. So the visit to Oakdale was not only a crowd-pleaser, it was an invaluable training exercise, too. This experience would come in handy when the association put a second 2-6-2T, Robert Dollar 3, into service on the

Dan Markoff's 1875 4-4-0 "Eureka" has visited Colorado's Durango & Silverton several times, including in August 2003, when she was on the high line. Steve Tidwell

Niles Canyon line near Fremont just in time for a coming-out party in March 2007. "Tank Fest," as the event came to be known, not only celebrated No. 3's return to steam, but it also featured a guest appearance by Granite Rock Co. 0-6-0T No. 10 of the California State Railroad Museum.

That training was the first thing that California State Railroad Museum Director Paul Hammond recalled when asked to elaborate on the museum's participation in Tank Fest. As Hammond noted, the museum's Sacramento Southern Railroad is a one-steam-engine operation, so the trip to Niles Canyon allowed for a chance to doublehead and even triplehead with the association's steam power. Additionally, at about 3 miles in length, the Sacramento Southern is a relatively short, level excursion route. The additional mileage and steeper grades (reaching 0.8 percent) of the Niles Canyon line proved an excellent opportunity for No. 10 to stretch her legs. Weighing in at 50 tons, the engine proved an easy move from Sacramento to Sunol. In fact, as Dennis Dougherty of the museum recalls, the size and weight of the 10 was one of the reasons the museum acquired the engine in the first place: It was small enough to take to other places!

The challenges of transport

In case you believe that tank engines are the only traveling steam ambassadors today, think again. Ohio Central Railroad has been allowing its 1948 Canadian Pacific 4-6-2 No. 1293 to travel off-line in recent years. While once a regular service steam tourist line and special excursion operator, Ohio Central in recent years has moved away from operating its own trips due to liability concerns. This doesn't mean that steam is dead on the Ohio Central by any means. In addition to operating steam-powered freight trains on occasion, Ohio Central has shared the magic and wonder of steam power with the general public by loaning the 1293 to other institutions.

One such operation is the Byesville Scenic Railway of Byesville, Ohio (off I-77 near Cambridge), whose president, Tim Brown, credits Ohio Central CEO Jerry Joe Jacobson with the idea for the visit. Byesville Scenic, which runs on ex-Pennsylvania track about 35 miles south of OC's base of Coshocton, made good use of that generosity in the past two years, hosting OC 1293 on three separate weekends.

Byesville Scenic is looking at additional dates, for Brown says the weekends put his line "on the map." More than 1,000 people from several states and countries rode the trips on 1293's most recent visit. The impact doesn't stop when 1293 leaves, either; Byesville sees an increase in ridership on regular diesel-powered trips in subsequent weeks.

Building on the positive experience with the Byesville Scenic events, Jacobson and Ohio Central loaned the 1293 to the Cuyahoga Valley Scenic Railroad in Akron, Ohio, during September 2007. The line hadn't seen steam excursions since 1990 when Grand Trunk Western 2-8-2 No. 4070 last plied the rails through the Cuyahoga Valley National Park. OC 1293 made four trips on Cuyahoga, including three private charters culminating in a public excursion Sept. 20. "There were 228 seats sold and 6,000 people along the route" during the heavily promoted excursion, says Cuyahoga Valley President Steven Wait. "The media focus and public interest were most beneficial to the CVSR." Wait is also quick to point out that the event was made possible by donations of both equipment and transportation from Ohio Central and a free connecting move over the Wheeling & Lake Erie, donated by CEO Larry Parsons.

Transporting steam engines from one location to another can present its own challenges, as John Gramling of Flagg Coal 75 attests. Each venue is responsible for securing its own coal. With different grades of coal at each site, proper firing can be an interesting challenge. Water conditions also vary from site to site, so getting the water treatment right can be difficult as well. Host crews at many venues have little or no experience with steam locomotion and, since the 75's caretakers want host railroad crews to have a chance to run the engine, it is a learning experience for everyone. Fortunately, none of these challenges have proved insurmountable. Perhaps the most memo-

Tanks a lot: Niles Canyon's 2-6-2Ts, Nos. 2 and 3, team up with the California State Railroad Museum's Granite Rock 10 in March 2007. Martin Hansen

rable "uh oh" moment came when the 75 blew a cylinder head and had to be towed back into town, where the local Federal Railroad Administration inspector was waiting. Since the 75 has always been kept in compliance with current FRA regulations, the day still ended well, and crew members maintain an excellent relationship with their local FRA inspector.

Keeping a locomotive in compliance with FRA regulations can be a daunting, not to mention expensive, proposition for anyone looking to take a locomotive on the road. In 1986 Dan Markoff of Las Vegas purchased the 3-foot-gauge *Eureka*, an 1875 Baldwin 4-4-0.

Over six years he lovingly restored the locomotive to operational condition. "It didn't make any sense to have it just sit here at my home," he says. "Sharing the Eureka with the public has given everyone a chance to experience firsthand what our forefathers did when America was young."

In keeping with that rationale, he has operated this majestic piece of Western history at several venues, including two of the California State Railroad Museum's Railfairs, the Nevada State Railroad Museum's 4th of July Steam Up, Cumbres & Toltec Scenic, and Durango & Silverton's "Railfest" multiple times.

Even though *Eureka* operates only a few days per year, FRA rules that went into effect in 2001 require that the engine's tubes be removed for an internal inspection. For this reason, Markoff made the difficult decision not to operate the engine at sites where FRA regulations apply. *Eureka* continues to make public in-steam appearances in impeccable mechanical condition, however, operating with a current Nevada State boiler certificate. If a waiver is obtained, outlets such as Durango & Silverton and Cumbres & Toltec Scenic will be an option again.

Thanks for the memories

There are many pleasant memories to be had along with the hours of hard work, red tape, and the occasional technical difficulties. On a visit to the Thomas Edison Depot Museum in Port Huron, Mich., Flagg Coal 75's crew saluted freighters on the St. Clair River with whistle blasts, and the lake boats responded with ground-shaking thunder from deep-throated horns. The exchange made a lasting impression on museum curator T.J. Gaffney, now executive director of the Steam Railroading Institute, 75's home. In another moment frozen in time, John Gramling recalls the 75's first visit to the Whitewater Valley where, for the engine's security, a camp was set up around the 75 at an old mill. The area became a popular gathering place, and a palpable sense of camaraderie and stories carried the crowd well into the night.

Ohio's Byesville Scenic has grown thanks to visits by 4-6-2 1293 of neighboring Ohio Central, serving as the traditional photo prop in June 2007. David Crosby

The outlook for traveling steam is bright. In 2007 the Durango Railroad Historical Society completed a seven-year FRA-compliant restoration of Denver & Rio Grande 315, a 3-foot-gauge 1895 Baldwin. The engine debuted in September 2007 on the Durango & Silverton, and its handlers are planning additional trips on the D&S, as well as a trip to the Cumbres & Toltec Scenic.

On Flagg Coal 75's first road trip, to Trainfest in 2004 on the Ohio Central, the crew of No. 75 met Scott Symans of Dunkirk, N.Y. Symans was then working on his own 0-4-0T in his home garage, and when the time came to fire up the engine in 2006, the crew of the 75 was on hand. Since then, the New York-based locomotive has joined the ranks of the travelers, appearing on short lines in both Ohio and New York.

Perhaps the best summation of these traveling salesmen of steam comes from Ohio Central's John B. Corns: "As a boy, Jerry Jacobson fell in love with steam locomotives chuffing down the track and vowed someday to have his own steamers and a railroad on which to run them. As CEO of today's Ohio Central Railroad System, Jerry enjoys sharing his 'steam dream' so that others can also feel the same excitement and fascination with steam locomotives just as he did a half-century ago."

Sharing the dream, indeed!

DAVID CROSBY, of Scranton, Pa., is a dispatcher for Delaware-Lackawanna and a former Steamtown fireman.

20 years of steam photo specials

The best from the camera of John A. Craft

I was on the fireman's seatbox, water sizzling on the crown sheet. I looked out the cab window and watched as yesterday's heavy cloud cover receded to the east, leaving nothing but stars above. And just in time — it was 4 a.m. on Oct. 5, 1985. In a few hours Magnolia State Railway's ex-Mississippian 2-8-0 77 would be charging past photographers on its, and my, first "photo freight."

Since that chilly morning 23 years ago, I've had a hand in at least 20 more, as either the organizer or a helper. We've put more than a dozen steam locomotives into more authentic liveries (some more than once), and even a few freight cars. Today, several of us continue to organize steam photo events as Historic Transport Preservation.

If you think the only result of these events is pretty pictures, you'd be wrong. I've seen friendships spring up between strangers thrown together in a car pool. I've seen organizations transformed by their experiences working on a photo special. And I've made many new friends myself, and truly enjoyed working with some wonderful people. Join me as we review some of the most memorable outings and share tales from these adventures. — *J.A.C.*

Mississippian 77

In 1983, citizens of Amory, Miss., were looking for a way to boost tourism. They formed the Magnolia State Railway to operate steam excursions on the Mississippian Railway and to bring 2-8-0 No. 77 back home. I became involved with the organization by chance, and quickly found myself helping with superheaters and firing 77 for James Carlisle, who had worked on the Mississippian since returning from World War II service with the Railway Operating Battalion in Iran.

In 1985 we decided to operate a "railfan weekend," which I organized. With help from Alan Miller and Tom Schultz, we attracted quite a few photographers and had a great weekend. The following year we offered another photo weekend, this time returning 77 to Mississippian livery. I also recreated 77's brakeman's shanty for the tender. Dennis Barnette and Buddy Stewart put on a fine show from the cab; this trip turned out to be 77's last public run for the Magnolia State.

Magnolia State ended operations, and 77 went to Huntsville, Ala., as No. 9, and later to Alberta, Canada, where she operates today as Alberta Prairie 41. Below, she's at the Amory enginehouse, Oct. 4, 1986; left, on the same day, she is crossing a trestle near Smithville, Miss.

Atlanta & West Point 290

On his last day in office in 1970, Georgia Gov. Lester Maddox appointed Steve Polk, his Highway Patrol driver and friend, head of the Georgia Building Authority, which manages, among other capital buildings, the pre-Civil War Georgia Railroad Freight Depot, now a special events hall. Polk prospered in the job through 20 years of changing administrations. In 1985 Polk, through the Building Authority, started the New Georgia Railroad, aimed to leverage the Freight Depot for convention business by offering train rides around Atlanta on CSX. Savannah & Atlanta 4-6-2 No. 750, recently retired from Norfolk Southern's steam excursion program, was the power, while cars came from the Hartwell Railroad. The operation flourished, and Polk pushed the return of Atlanta & West Point 4-6-2 No. 290 in late 1989.

Sadly, Polk was diagnosed with cancer shortly after 290 made its inaugural run, but he instructed his staff to work with me on a photo special, which we operated in May 1990, just weeks after his funeral.

We planned another for Sunday, May 3, 1992. As it happened, a Los Angeles court handed down a verdict in the Rodney King police brutality trial on April 29. Attendees from Los Angeles had trouble getting to their flights, and reported seeing smoke from the resulting riots on takeoff. A Saturday demonstration in downtown Atlanta resulted in violence, and reporter Don Phillips, in town for the 290 event, went to work reporting on the unrest for the *Washington Post*.

As a result, we moved our departure location from downtown to the New Georgia's yard east of downtown — not easy to do in the days before cell phones and e-mail. Despite the problems, we had a great day photographing 290. It turned out to be our last opportunity — 290 ended its short excursion career at the end of 1992, and the New Georgia folded up in 1994. Both of these images were made on May 3, 1992, near Emory, Ga., on former Seaboard Air Line rails. They just go to show: Do it while the opportunity is there.

Cumbres & Toltec Scenic

In 1991, Steve Glischinski and I teamed up to offer a photo special on the Cumbres & Toltec Scenic. We failed to generate enough interest to make it go, so I tried again in 1992 with Glischinski and Greg Scholl each partnering with me for part of the time. This second trip sold out, and we planned a fifth day — an afternoon turn to Cumbres, Colo., with three 2-8-2s and 35 cars.

C&TS's Earl Knoob and I corresponded for months, trading ideas, planning consists, and getting the details right. (At one point I apologized to Earl for all the extra work that our photo special was causing for him. His response was, "Are you kidding? We live for these things.") Dozens of photographers, from seven countries, descended on Chama, N.M.

Logistically and photographically, the event was a triumph. As a fun and enjoyable event, it was a disaster. We had managed to catch lightning in a bottle — the right locomotives, long trains operated as the D&RGW did, fantastic scenery, and great weather. But some attendees saw it as a once-in-a-lifetime chance, and were willing to abandon civilized behavior for an extra picture.

"We shouldn't shoot where freeloaders can get a picture."

"They didn't make enough smoke."

"The trains are too long — we can't get the rear pusher in the shot." Patrons made angry demands to abandon the planned runbys in favor of locations they wanted. I got complaints about the "cold fish" (smoked salmon flown in especially for the event) we served for dinner. When we arrived in Antonito after the awful first day, I apologized to my long-suffering wife, Danah, for getting her into this mess, and dreaded the rest of the week. Luckily, the next day was better. But with all the details right, the opportunity was irresistible, and testosterone poisoning continued.

The aftermath was just as bad. I got letters critiquing the trips, and editorials appeared in England's "World Steam" magazine, with rebuttals in the next issue. In the end, the photos were spectacular. But the atmosphere on those trips is not something I want to relive. Thank goodness I haven't had to do so.

The two images above were among the best from the event. In the upper left, 2-8-2 No. 497 takes water at Los Pinos; above, No. 487 with No. 497 running as a mid-train helper, charge through Lava, N.M., both made on a memorable Oct. 13, 1992.

Strasburg

The C&TS trips in 1992 were my last for a while. A new job in a new city with lots of overseas travel, and the acquisition of a well-loved but never-modernized old house, claimed my time. Almost 10 years to the day after those C&TS trips, Danah and I dropped by the Strasburg Rail Road after attending Jim Gunning's wonderful East Broad Top event the day before. I got my first look at Canadian National 2-6-0 No. 89, and was smitten. But a photo special at Strasburg? Wasn't Strasburg the poster child for the gaudy, railfan-averse, profitable tourist line? Was I insane?

Months later I cautiously e-mailed Strasburg's Kelly Anderson to get advice about how to approach Strasburg President and CMO Linn Moedinger about relettering 89 and operating a photo special. Sixteen minutes later, Anderson replied that he forwarded my e-mail to Moedinger, and 26 minutes later, I got a tentative "yes" from him.

This wasn't going like I thought it would, but I didn't complain. And it continued to spiral — while, as Moedinger said then, "Our directors really like things to say 'Strasburg,'" they also realized that (again quoting him) "the non-railfan customers don't care what's on the tender, and the railfans like it, so authentic liveries are a net plus." Now, more than four years later, not only is 89 still in CN paint, but Norfolk & Western 4-8-0 475 would look right at home on the Blacksburg branch, and Great Western 2-10-0 looks much as she did in the 1930s hauling sugar beets in Colorado. Strasburg has acquired and restored a vintage tank car, and returned its 44-tonner to Pennsylvania Railroad livery.

Completing the transformation, the 0-6-0 Strasburg bought in 1959, which has been "Strasburg 31" for more than half of its service life, is now Canadian National 7312 again. "It's the end of an era," Moedinger said as 7312 and 89 performed for Pete Lerro's November 2007 photo outing.

Above, 475 charges out of the setting sun on Oct. 22, 2004. At right above, 90, back in its Great Western blues, approaches Groff's Grove on Feb. 17, 2006. Every outing now at the Strasburg is like a time machine.

Soo Line 1003

In 2005 I helped Bill Raia with his second photo special combining Soo Line 2-8-2 1003 and Wisconsin & Southern Railroad equipment on WSOR's ex-Milwaukee track, and through Historic Transport Preservation a third event in October 2007. These trips through Wisconsin farm country come about as close as anything I've seen to recreating the feel of the Southern Railway steam excursion days of the 1960s and 1970s. (My introduction to steam was as a child in a crowd of hundreds at my hometown Southern depot. Invariably the train would stop, and dozens of kids, including me, would visit the cab. Fireman Paul Merriman hitting the firedoor treadle was our version of a "haunted house" scare.)

When Soo 1003 shows up in Burnett, Fairwater, or Brandon, people turn out. In droves. Gibby Koch, or Bob Peterson, or Rick Krajewski hear about the train, go home, and drive their antique vehicles to the nearest crossing. Families bring their kids to pose on benches while the train makes a runby, and hang around while the crew services the locomotive. It's all spontaneous, which makes the resulting photos that much more memorable. We also get invited into the backyards along Beaver Dam Lake, which the tracks cross on a long causeway. It started with one couple, Norman and Noreen Kerecman, but on our last trip our group wandered up and down the shoreline, welcomed by strangers who were delighted by the multiple runbys.

They are perhaps the most social rail events I have ever been involved with — and among the most enjoyable. Below, in a Bill Raia photo, 1003 works past a pond near Beaver Dam in April 2005.

Pere Marquette 1225

In late 2006, the Steam Railroading Institute hired T.J. Gaffney as executive director. Within days, Pete Lerro approached Historic Transport Preservation about partnering to organize an event with the institute's Pere Marquette 2-8-4 No. 1225, an elusive mainline engine whose one foray into West Virginia dates back to 1991.

Big engines are elusive prey for photo specials. Finding the right combination of cost, location, and consist is tough, and the groups who own and run big engines have their own challenges and priorities. The one thing that is absolutely required for a truly successful photo special is enthusiasm by everyone involved. But when it does come together, it can be a "mountaintop moment."

In four short months, many people put a lot of effort on the line. Gaffney, CMO Barney Gramling, and Steam Railroading Institute volunteers prepped boxcars and repainted not only white striping, but also restored a lineside telephone booth (including new roof decking and shingles). Several "steam guys" affiliated with other organizations — including Greg Udolph, Chris Zahrt, Kelly Lynch, Jeff Rayner, and Jason Johnson — gave their time and paid their own travel to supplement the institute's crew for the weekend. An antique-car club in the area organized an outing to provide props for our runbys. Lerro and Jim Gunning put together a terrific night photo session. As Gaffney told me, "SRI has a lot of friends out there who want us to be successful."

As the sun nudged over the Michigan horizon on April 21, 2006, Fred Stevens' 1951 Chevy pickup rolled to a stop at the King Road crossing (below) just as Charlie Kreicher spurred a dirty, all-black 1225 by, pulling boxcars lettered Wabash ("Follow the Flag") and Ann Arbor behind the tender. Zahrt's off-the-cuff performance at the phone booth later that day, ranting to an imaginary dispatcher, was Oscar-worthy. We finished an incredible day with a night photo session at John Lehman's trackside grain elevator. Gaffney and I drove back to Owosso together, exhausted and a little overwhelmed at what all these people had collectively pulled off, not able to do much more than giggle.

Sunrise the next day (right) came painfully early, but was just as memorable. That 1225 and the SRI are a tough act to beat.

What's ahead

Putting together an event today is both easier and harder today than it was in 1985. On one hand, it's much harder to portray the steam era trackside now than it was even 20 years ago, and we have to work harder to find appropriate locations and freight cars. On the other hand, e-mail and Web sites make it possible for anyone interested to find out (about 120 of the 200 people who have attended one or more events found us on the Internet at www.steamspecials.com).

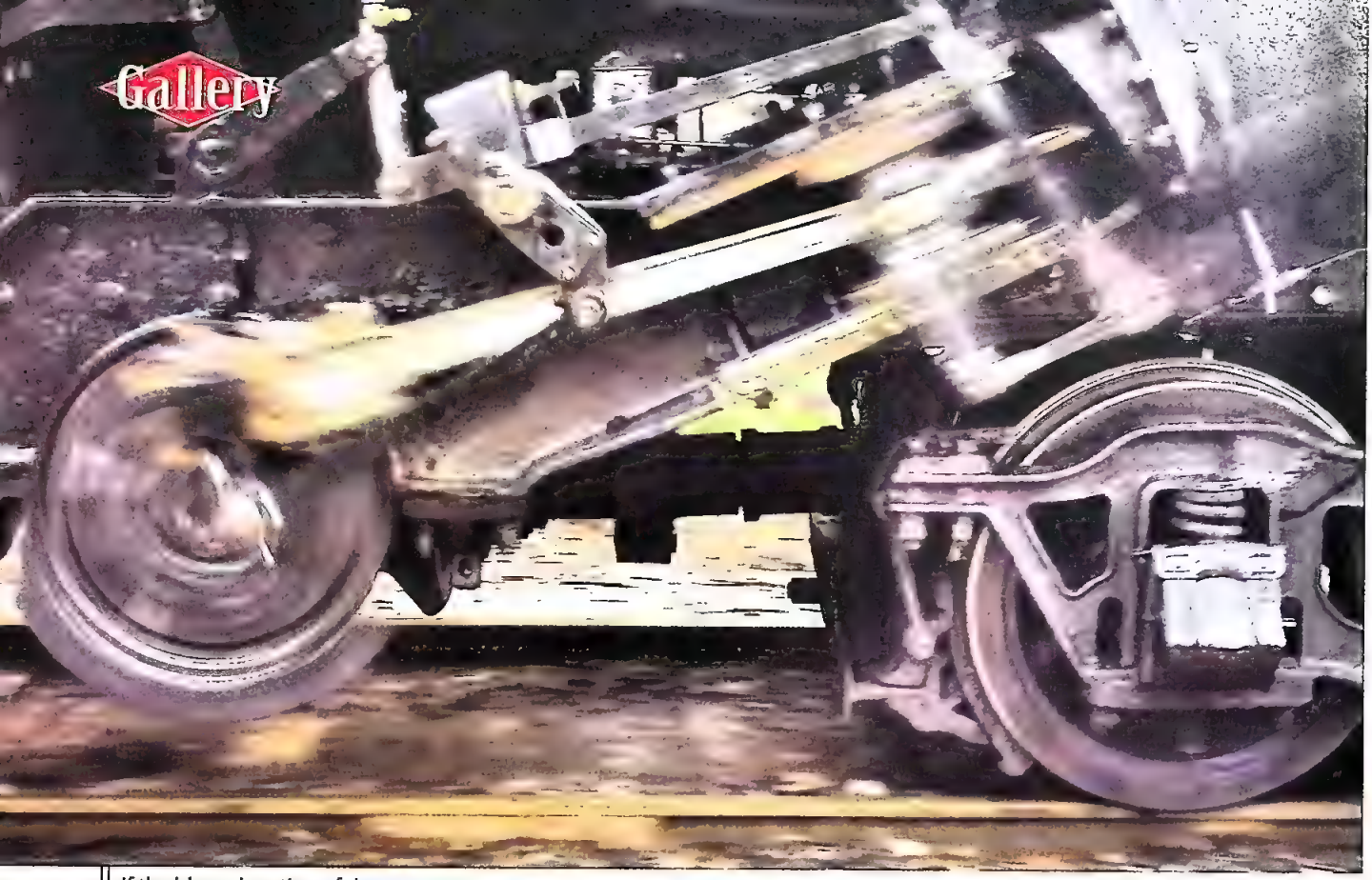
Executing an event takes a lot more out of me at 44 than it did at 22, and I'm lucky that my fellow Historic Transport Preservation directors (Jim Gunning, Bill Raia, Mike Allen, and Steve Fowler) are there to share the load. Digital cameras are expanding the range of images that we can capture, especially in low light. Opportunities no longer include just the steam locomotive at the head of the train — we can scour eBay to find 1930s-vintage kitchen items appropriate to a caboose, for example.

Hopefully we'll still be putting together steam-powered photo opportunities when I'm 66 — shooting with hydrogen-powered Gigapixel cameras, but still laughing in the photo line with our friends as the whistle echoes off the hills.

Gallery

Western Maryland Scenic 2-8-0 No. 734 pulls a photo freight through Sunnyside, Md., on Oct. 18, 1999. The former Lake Superior & Ishpeming Consolidation is a dead ringer for a WM locomotive. F.J. Ahern

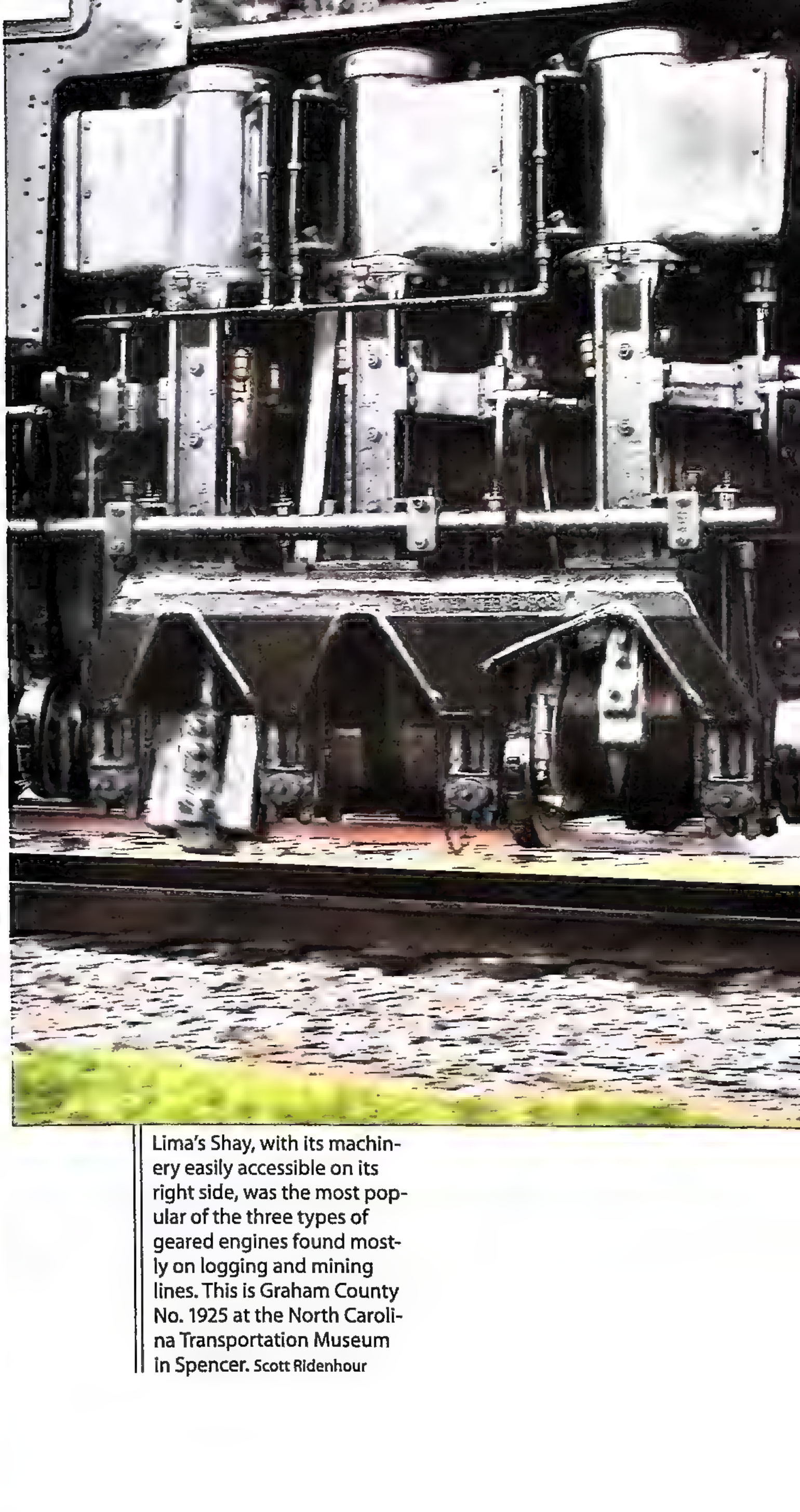
734



If the blurred motion of the machinery of geared steam locomotives has failed to fascinate you before now, take another look in these three views. First example: The "strumming on the old banjo" motion of a piston turning the gear box on a Climax. This engine is Mount Rainier Scenic No. 10, a 1928 product for the Hillcrest Lumber Co. in British Columbia.

J. David Ingles

Does the V-2 arrangement of a Heisler ever leave you wondering how the mechanics in charge of these beasts ever worked on them? Mount Rainier Scenic's three-truck No. 91, a 1929 product, moves along near Mineral, Wash., in July 2005. J. David Ingles



Lima's Shay, with its machinery easily accessible on its right side, was the most popular of the three types of geared engines found mostly on logging and mining lines. This is Graham County No. 1925 at the North Carolina Transportation Museum in Spencer. Scott Ridenhour

Colorado is one of the top states in the nation for steam, thanks largely to the network of Denver & Rio Grande Western lines in the Rockies. Above, two Durango & Silverton trains, each with 3-foot-gauge 2-8-2s on the point, meet at Elk Park on Sept. 30, 2006. David Hoge

The wide world of narrow gauge is exemplified in Rio Grande 2-8-2 487 running light and 488 in charge of a photo freight in the meadows at Los Pinos, Colo., Oct. 2, 2006, on the Cumbres & Toltec Scenic. After struggling to rebuild its fleet, the C&TS should have a stable of engines for 2008. David Hoge

Southern Pacific 2-6-0 No. 1744 added standard gauge steam to former Rio Grande lines in 2007 when she returned on the LaVeta Pass line of the Rio Grande Scenic Railroad. She performed for photographers in September 2007, climbing to the summit at Fir, Colo. TRAINS: Jim Wrinn

Gallery

Delaware River Railroad's Chinese SY class 2-8-2 No. 142 performs on a photo freight July 23, 2005 near Phillipsburg, N.J. This locomotive was part of the New York, Susquehanna & Western's heritage fleet for many years before it found a permanent home in New Jersey.
J.T. Robbie

Chelatchie Prairie's Crossett Western 2-8-2T No. 10 pulls a photo freight near Yacolt, Wash., on June 30, 2007. The tank engine is a sister to Mount Rainier Scenic's No. 17 at nearby Mineral, Wash.
Jim Thomas

Railroad Development Corp. made a splash in 2006 with the acquisition of Chinese QJ class 2-10-2s 6988 and 7081. In 2007, the two pulled freight (66-cars, 4,400-tons) on a Bill Raia photo outing on the Iowa Interstate. On June 9, they were working at Adair, Iowa. Keith Schmidt

Pennsylvania's New Hope & Ivyland has been a Delaware River tourist favorite for almost 50 years. But from time to time, it puts on a show for fans as proven by 2-8-0 No. 40's presence on the head end of a freight, Feb. 19, 2006. The John Deere tractor is a prop. Jim Gunning

The draft from a hard-working steam locomotive, in this case Union Pacific 4-6-6-4 No. 3985, draws sand from a scoop into the firebox and through the flues in the tradition on oil-burning locomotives of "sanding the flues." The practice cleans the tubes of soot. David Hoge

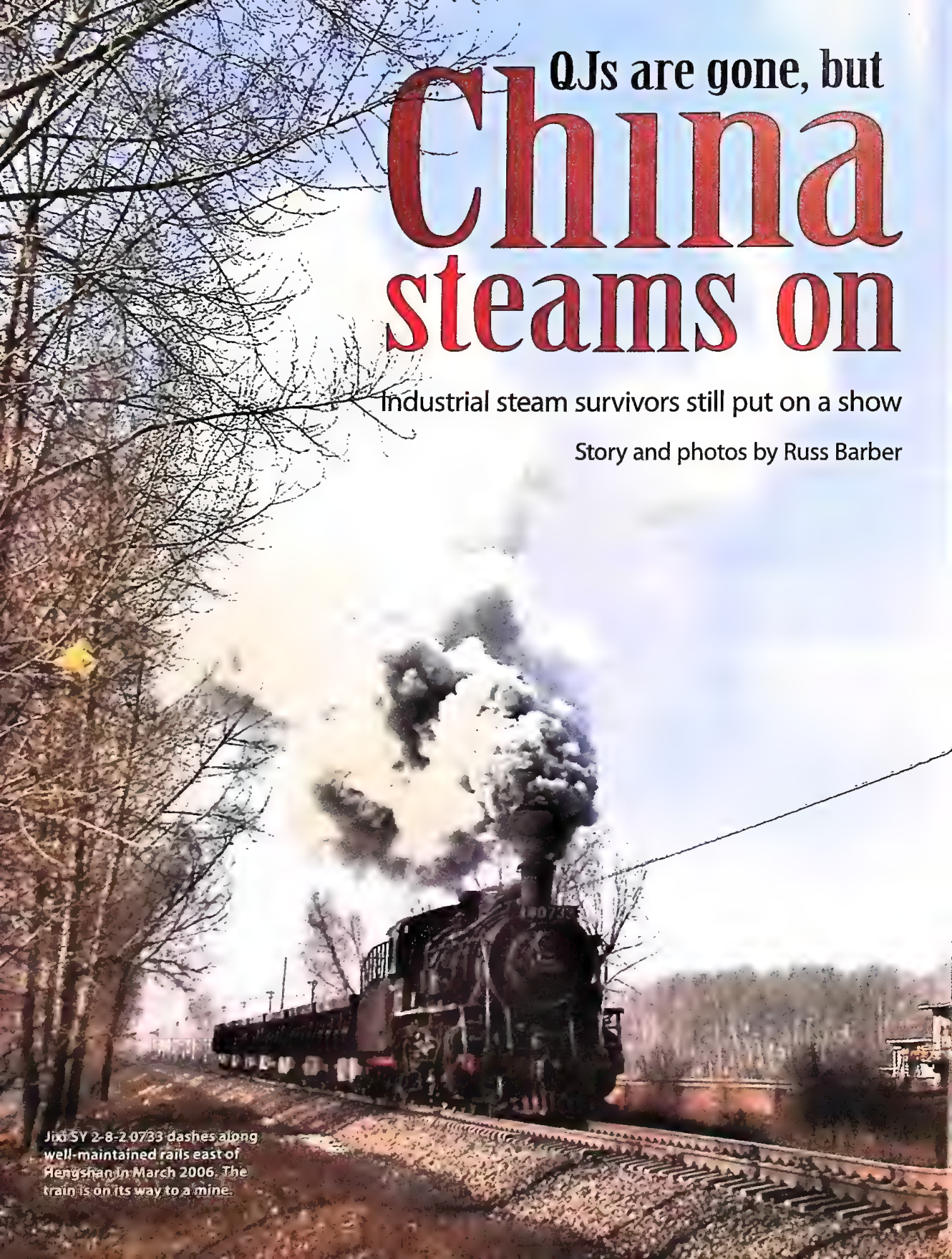
Visibility is critical when switching , and on some locomotives, the best place for the engineer is to perch on the window armrest in the cab. That's what Chuck Truesdell did on Wannamaker, Kempton & Southern 0-6-0T No. 65 at Kempton, Pa., on July 15, 2007. Andy Ottinger

Utah's Heber Valley Railroad in the Wasatch Mountains southeast of Salt Lake City provides one of the most stunningly beautiful locations for steam today. Union Pacific 2-8-0 No. 618, a 1907 Baldwin product, works a photo freight near Charleston on Feb. 7, 2007. Jeff Terry

QJs are gone, but China steams on

Industrial steam survivors still put on a show

Story and photos by Russ Barber



Jixi SY 2-8-2 0733 dashes along well-maintained rails east of Hengshan in March 2006. The train is on its way to a mine.

"I guess you won't be going back to China on any more of your trips to see steam anymore," a friend said to me. "It was in the papers and magazines. Chinese steam is dead, and the last two QJs came to Iowa. It's finished."

Well, my friend had it only partly right. Yes, the amazingly photogenic Jingpeng Pass main line is without the thundering 2-10-2s that made it famous. It also is true that the number of steam-operated lines has dwindled to the point that fair-weather photographers and touring companies have packed up and headed home. But steam lives on in China. Several steam systems, and a few hundred steam locomotives still run.

They labor, one and two each, at small industrial plants. As many as 24 soldier on in small cities where they are the region's only motive power. They work alongside diesels and electrics in a few steel mills and larger industrial plants. They mingle with diesels on regional coal lines and, in the two most notable cases, they are the sole motive power at vast open-pit mines.

Since 2001, British friends and I have made five trips to 17 separate steam lines. Most of these systems were pure steam. Now looking back, half of these lines have mostly, or completely, converted to diesel.

In considering our last trip in 2006, we were not sure we wanted to see the last days of Chinese steam, sharing a remote line with cocky, insolent diesels buzzing around, but China called us back with a mysterious promise of yet more steam. We read Internet reports from diehard steam seekers, contacted some of those coming back, and we pored over maps. We learned there were significant numbers of steam railroads left. Granted, some lines roster only one to three engines, but if you add a couple of these while visiting one of the larger systems, you can come away with 15 to 20 or more engines in a single trip.

So, how and why do these lines defy the calendar? In the lines that are left, we found common traits and a few benefits for the survivors. First, steam locomotive technology is fairly low, so all you need is a good machine shop with traditional tools and trained machinists to do most repairs and periodic maintenance. Second, China has an eager, low-cost labor force that's ideal for steam — and steam engines are among the most labor-intensive machines ever made. Third, these railroads can burn what they haul: coal. Fourth, railroads have little or no capital for modernization. Fifth, and finally, most regions depend on the local railway system.

Together, these are significant motivators. But one more exists, and it can best be described as the spirit of steam culture. If you have been blessed by being around operating steam — anywhere — then you know that steam is much more than a good show. Steam is a living entity with an extended family. That's never been truer than it is in China today.

Children sometimes run through rail yards , as these are on the Hengshan system in 2006. SY 1545 sits while another engine switches in the background.

For the most part, the surviving steam lines are in poorer areas, much like our own Appalachian region back in the last days of Norfolk & Western steam in the late 1950s. These traditional coal mining regions are not in modern, growing areas, and the lines do not have money to buy diesels, purchase and import oil, or afford high-tech electrical switch gear. Rural China's steam has another factor in its favor, and that is the nation's increasing economic emergence.

So, the smaller lines are really motivated as well as mighty proud of their steam engines. But at least two major factors are complicating this otherwise pleasant picture. One is the need to access a major shop for boiler overhauls. The other is that many parts suppliers have closed. With China's ability to quickly build a low-cost cottage industry where a gap exists, this problem may soon be overcome.

The boiler rebuild question is the biggest problem, both for the cost and also because China Rail does not want old engines transported far on the main rail network. Some engines travel by rail to large repair shops, but this is getting harder and harder for small lines. The remaining larger steam lines have been buying shops and moving them along with the skilled work force on site.

Here's a tally of of what's still running:

Jixi Coal Railway

(24 2-8-2 steam engines, four diesels)

Located in the northeast, near the eastern end of the Chinese section of the Trans-Siberian railway (not very far from the North Korean border) are the Jixi and Hengshan systems. This is a regional network of railroads serving coal mines and using SY-class 2-8-2s. The railroads have a fairly major shop, having purchased another one in the south and moved it. The small city of Hengshan is the most active hub of this area. In the morning, several engines gather near where four branch lines converge. Once they get their coal, water, and grease, they blast off to their various duties. This location is busy all day with trains coming and going in all directions. The railroad has announced plans to buy diesels over and over again but has never carried through. Either way, steam will be around for years.

Here's how a QJ 2-10-2 looks without smoke deflectors. The engine, No. 7186, is one of five from three classes visible in this March 2004 view of the busy yard at Pingdingshan.

Jalai Nur Coal Mine
(35-40 SY-class 2-8-2 steam engines)

Located almost on the Russian border, and adjacent to the Trans-Siberian Railway, is the vast open-pit coal mine at Jalai Nur. This mine runs continuously and is 100 percent steam-powered. These engines can take quite a bit of punishment from constant service on steep grades, switchbacks, and rough, temporary track. Two groups of engines run here. The largest group runs in the pit; the second group runs on the surface mines and colliery, and switches the yard with China Rail. All are SY-class 2-8-2s.

On a trip, we signed in at the local mine office and were allowed free access. Standing at one end of the pit I was able to count 15 engines near and far working at one time! Adjacent to the pit is the town for the miners. In all, 25,000 people work for the mine. The miners' town is of the old style with small brick houses and courtyards. Remarkably, all of these houses are connected by alleyways too small for a car but within walking distance of the mine.

This place is increasing its ability to repair steam, and expects to continue operations for as many as 10 years.

Sandaoling Mine
(17 JS steam engines, two SYs)

Sandaoling is the other great frontier open-pit mine, at the far limits of the rail system in the northwest part of the country. This is the old Silk Road region of China. Here, 17 JS and two SY-class 2-8-2 steam locomotives reign supreme in the harsh, dry environment. By summer the heat can reach more than 100 degrees and in winter it can dip to minus 30. In the distance you can see great snowcapped mountains. The activity is non-stop, and it is not uncommon to see four engines abreast straining against heavy loads, coming out of the pit to the spoil pile on parallel tracks.

This is the most remote of China's steam survivors and may be the most remote steam line anywhere in the world. Plans call for continued steam operations.

Early one morning, an SY-class 2-8-2 steam locomotive shuffles about the yard at Hengshan in 2006.

Pingdingshan
(20 steam engines, 10 diesels)

Located in central China is a regional series of lines that connect several coal mines. A large, central marshalling yard connects to the branches. What makes Ping' unique in China is that all three major classes of steam engines — QJ, JS, and SY — work side by side. Business is increasing so, in spite of more diesels, steam continues.

When I visited in 2004 and 2005, this was my favorite line in all of China. It had no diesels then, and long coal trains blasted through the yard on their way to a colliery or from a mine, while other engines struggled to get a loaded train moving. This railroad presented to me a vision straight out of America's past — probably the 1930s, when many cities had large gritty rail yards with five or more engines moving at the same time and with coal smoke hanging in the air. It rendered scenes in shades of black. Having been born in the Boston area in 1954, I never knew the hard-working world of steam. Pingdingshan helped me appreciate what America must have been like when steam was king.

Working the deep pit at Jalai Nur, three SY 2-8-2s work on different levels of the huge mine. This is a busy, 100-percent steam location. At times, as many as 15 plumes of smoke are visible at once.

This place is special for two more reasons: It has QJ 2-10-2s with no smoke deflectors, which makes them look American with a unique flair; and it has a fantastic shop. In the shop, I have seen three different types of steam engines disassembled, with their parts scattered about. Overhead cranes and a drop-axle type lift to lower and change out wheel-sets and assemble the frame complete the shop. When we asked how long it takes to overhaul an engine, an employee told me the job lasts about a month. After my visit, I learned that just a few weeks later, the engines I'd seen disassembled were running. It's amazing what can be done in a building with only natural lighting.

Shop workers tend to QJ 2-10-2 No. 7186 in the shop at Pingdingshan. A workforce that knows steam as well as an abundance of machine shops will keep steam in China for years to come.

Recently, the Ping' has acquired five diesels but, for the time being, three classes of engines will work alongside them.

Shibanxi Coal Co.
(four C2 0-8-0s)

This 762mm-gauge (30-inch) line is special as it is representative of old rural China. It is unique in that it will be preserved as a tourist line. It serves a remote area of rural south central China. It winds through picturesque hills and valleys and is essential for locals as there are no roads through the hilly terrain. Coal is still produced here and adds to the continued need for this line.

Some of the other surviving industrial lines include:

• Hegang, with 10 SY 2-8-2s in the far north of China.

• Yakeshi, with three SY 2-8-2s off the Dayan Railroad.

• Ma'anshan, with 10 SYs. This gritty city is home to a sprawling steel works. Though both steam and diesel are here you can still find a rail yard and some street running sections that are all steam.

• Tiefa: Steam still pulls local passenger trains, and a restored YJ Class engine pulls specials. Tiefa is also notable for having some of the newest SYs, including the last production steam engine, 2-8-2 No. 1772, which was built in 1999.

• Nanpio: Local passenger trains are steam-powered, but diesels older than the well-worn steam locomotives are around, too. The diesels are notorious for breaking down, so it's not uncommon to see steam rescue the day. Many of the coal cars on the system are made of wood.

• Meihekou: This location still has a few operating engines.

• Baotou Steel Works: The mill has several steam engines working slag trains and filling in as needed.

China will be the last bastion of working steam for a while longer. Yes, steam is dwindling and is a fraction of what it was, but it is good to know that even though mainline QJs are gone, China steams on!

In Pingdingshan's main shop, workers install new tubes in a JS 2-8-2 boiler. The shop is completely illuminated by natural light. It contains no light bulbs.

RUSS BARBER is a machinist, photographer, and railroad advocate, who lives in Belfast, Maine, when he is not traveling in China as he is once again in spring 2008.

Today's steam stars

From tiny 0-4-0Ts to a single 4-6-6-4, steam lives in at least 190 engines that keep telling the story

by Jim Wrinn

Nobody planned it this way. The more than 190 steam locomotives in operation today represent at best a random cross-section of what once was. Thus, according to our survey of operating steam, the most predominant types are 2-8-2s, 0-4-0Ts, 2-8-0s, 3-truck Shays, 4-4-0s, 4-6-0s, and the odd man of the bunch, the 0-2-2-0 found only at the Mount Washington Cog. Let's take an introspective look at these engines. In the not so distant past, each was an unremarkable vehicle in the nation's transportation system, but in preservation, they've become a prized legacy — they're today's steam stars.

Most popular, from left: Nevada Northern 4-6-0 40, Sugar Pine Shay 15, Sumpter Valley 2-8-2 19, Savannah Central 0-4-0T, Mount Washington Cog 0-2-2-0 8, Wilmington & Western 4-4-0 98 (with 0-6-0 58), Sierra 2-8-0 28. Steve Crise; Jim Wrinn; Matthew Mattioda; Ron Geiger; Doug Koontz; two photos, Jim Wrinn

Napa Valley WINE TRAIN
Gourmet Dining Excursions
Year Round ~ Daily ~ Lunch & Dinner
800.427.4124
winetrain.com

Colorado Railroad Museum
The Colorado Narrow Gauge Authority
Museum
Featuring over 75 pieces of Narrow Gauge equipment
Library
10,000 piece collection of books, maps, photos, periodicals and serials
Bookstore
1,000 titles available covering all areas of rail
OnLine
Check out all our steam resources
346
We're all about steam.
ColoradoRailroadMuseum.org
17155 W. 44th Avenue, Golden Colorado • 303.279.4591 or 800.365.6263

Exploring the roster

Let's delve into the most popular wheel arrangements among the more than 190 engines in steam. First, and most noticeable, is the lopsided number of Mikados or 2-8-2s still in steam — most of them built to 3-foot gauge. Of the 28 Mikados in steam, seven are standard gauge.

Credit for this odd circumstance goes to the builders who pushed Mikados as the workhorse engine to railroads of every gauge and length across the map, and to the long-lived Denver & Rio Grande Western narrow-gauge empire that kept so many 2-8-2s in steam into the 1960s. You'll find the biggest concentration of these engines at the Cumbres & Toltec Scenic and the nearby Durango & Silverton, both remnants of the Rio Grande narrow-gauge network. But you'll also find them scattered on line-haul tourist railroads from Pennsylvania and Tennessee to Oregon and Alaska.

Second, does anyone find it ironic that, with so many narrow-gauge Mikados, standard-gauge Consolidations outnumber narrow-gauge engines almost 4 to 1? Both types were considered bread-and-butter freight engines of their day, but it's amazing that so few narrow-gauge 2-8-0s still run.

Next, note that the meek have indeed inherited the Earth: Operating 0-4-0Ts now outnumber 2-8-0s by one, but the number of smaller engines has been growing while the number of their larger sisters is waning or static. While Consolidations are powerful machines with a home on many railroads, tank engines are smaller, more affordable, and easier to sustain on railroads with few operating challenges and lower volumes. As Dave Crosby points out on pages 56-61, tiny tankers aren't out of individuals' reach to own and operate.

Lastly regarding wheel arrangements, Pacifics, or 4-6-2s, were the quintessential passenger power on most big railroads, but today, only seven such engines lead passenger consists on a handful of railroads. Find them at the Kentucky Railway Museum, Lake Superior Railroad Museum, Steamtown, Little River Railroad, Ohio Central and, in the recently resurrected Nos. 425 and 2472, at Pennsylvania's Reading & Northern, and at California's Niles Canyon, respectively.

Note these gems in the roster:

- The smallest standard-gauge Pacific ever built, Little River Railroad No. 110, operates at Coldwater, Mich.
- Pennsylvania's Strasburg Rail Road runs the nation's only operating 4-8-0 in Norfolk & Western 475 and the only 2-10-0 in Great Western No. 90. Both carry authentic lettering.
- South Dakota's Black Hills Central runs the only true Mallet — using its steam twice, once in high-pressure cylinders and

again in a set of low-pressure cylinders — in logging 2-6-6-2T No. 110. She now totes tourists near Mount Rushmore, but don't let this railroad fool you. Its route includes a 5 percent grade that really gives this massive engine a workout.

• The largest operating engine in the land, Union Pacific's 4-6-6-4, No. 3985, a simple locomotive (its boiler feeds two sets of cylinders, thus it is not a true Mallet type), should return to the main line in 2008 after work to add new improvements to make this big Alco more efficient.

• West Virginia's Cass Scenic Railroad runs the last Shay built, Western Maryland No. 6, and it is one of the largest ever made.

• In California, the Yosemite Sugar Pine Railway, runs the largest narrow-gauge Shay built, No. 10, while Indiana's Hesston Steam Museum runs the last narrow-gauge Shay that Lima made, No. 7, which carries New Mexico Lumber Co. lettering on one side of her tank, and Oregon Lumber Co. on the other, for both of her owners.

• Looking for the oldest engine in steam? Try and find your way to the Baltimore & Ohio Railroad Museum in Baltimore, Md., on the rare days when 4-4-0 No. 25, better known as the *William Mason*, performs demonstration runs. Though her boiler was replaced in 1926, the original engine was built in 1856, and at least a few pieces of the original still exist.

• Similarly, if you're looking for the newest steam in the land, check out the Chinese engines built in the 1980s that are found in Iowa, New Jersey, and Kentucky.

• Looking for odd gauges? Try Alder Gulch in Montana, where trim 2-8-0 No. 12 plies rails set 30-inches apart. Or, head to the Mount Washington Cog, an oddity in itself, where the rails are set to a gauge of 55 inches. Both of these are amazing operations in steam today.

Want to know where to look for steam?

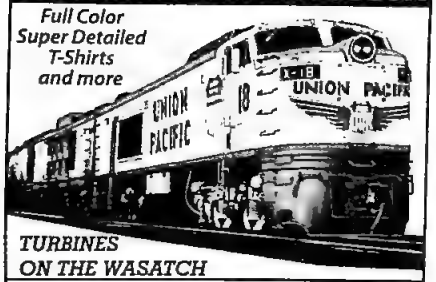
Here are the states with the highest populations of operating engines:

California 29
Colorado 17
Pennsylvania 14
New Hampshire 12
Nevada 7
West Virginia 7
Iowa 6
Minnesota 6
Ohio 6
Oregon 6

Thunder & High Iron
PORTRAIT CARDS
JT-5990 - SP Lark
April 29, 1950
Meticulously prepared in brilliant full, rich color, these North American railroads include a detailed history on the reverse side.
Visit us on the web at www.vanishingvistas.org, or send a SASE for illustrated information. 86 titles available, size 5½" x 8¼". Price: $1.25 each plus $3.00 shipping per order. CA residents add $.09 each sales tax. Remit by check or money order in U.S. funds.
Vanishing Vistas
DEALER INQUIRIES INVITED
BY RICHARD E. COX
www.vanishingvistas.org
PO Box 1491C • ROCKLIN, CA • 95677-7491 • USA

OWOSSO-CLARE
SPRING NORTHERNER
BEHIND
PERE MARQUETTE 1225
May 17 & 18, 2008
Round Trip Excursion to Clare
The excursion will depart Owosso at 9:00 a.m. each day and will arrive in Mt. Pleasant around 12:00 noon. After a short layover, the train will proceed on to Clare. Arriving back in Owosso by 8:00 p.m. We offer a few different options for this trip: you may purchase tickets for the Owosso-Mt. Pleasant portion where you will disembark at Mt. Pleasant and enjoy lunch on your own, or you may also board the train in Mt. Pleasant at 1:00 p.m. for a short trip to Clare and back. Those interested in riding for the entire trip from Owosso to Clare and back may purchase tickets that include a boxed lunch.
"Your Hand On The Throttle" of #1225
May 24th, 25th and 26th ~ May 31st and June 1st
June 7th and June 8th
"Highland Chieftain"
July 26 & 27, 2008 • Owosso-Alma
"Summer Steam Train for August" Behind #75
Join us every Saturday and Sunday in August for a 1 Hour Steam Train Ride! ~ Departures at 1 p.m. and 3 p.m.
"Fall Color Trip"
October TBA
"Terror Train"
October TBA
2008 North Pole Express Dates & Times
November 28th ~ 4 p.m.
November 29th & 30th ~ 10 a.m., 4 p.m.
December 6th & 7th ~ 10 a.m., 4 p.m.
December 13th & 14th ~ 10 a.m., 4 p.m.
December 20th & 21st ~ 10 a.m., 4 p.m.
STEAM RAILROADING INSTITUTE
P.O. Box 665 • 405 S. Washington St. • Owosso, MI 48867
Phone: 989-725-9464 • Fax: 989-723-1225
www.michigansteamtrain.com
To Purchase Tickets Visit Our Web Site

North Shore
SCENIC RAILROAD
Soo Line #2719 pulls Fall Color Trains from Duluth to Two Harbors in Northeastern Minnesota. All day excursions behind 1923 Alco Pacific. Trains depart from the Lake Superior Railroad Museum at the Depot in downtown Duluth on Fridays, Saturdays & Sundays September 12th - October 5th
Reservations call the
North Shore Scenic Railroad
1-800-423-1273
www.lsrm.org

www.rebelrails.com
Full Color Super Detailed T-Shirts and more


TURBINES ON THE WASATCH
Ash color Trees available in 6/8, 10/12, S, M, L, XL, XXL & XXXL, just $12.00 plus $5.00 s&h. Rebel Rails Railwear®
10248 Missionary Ridge Road, Bon Aqua, TN 37025
931-670-6077 rebelrails@earthlink.net

Climb Aboard
OUR TRAIN
We have coal to meet your needs
- Stove and egg coal for hand-fired locomotives
- Pocahontas smokeless coal
- Bituminous
- Anthracite
- Stoker coal

JOMICO LLC Call, fax or email today!
911 Washington Ave., Ste 215 • St. Louis, MO 63101
Ph: 314-241-1011 • Fax: 312-241-1070
Email: chuck.welsh@jomico.com

YOUR TICKET TO FAMILY FUN!
Offering weekend excursions year round!
This historic train offers steam & diesel excursions through the scenic piney woods of East Texas. Board at either depot.
- Large Parks
- Fishing Lake & Streams
- Full-Service Campground Facilities
- Picnic Areas & Pavilions
- Gift Shop
- and a great deal more...

PALESTINE DEPOT
Park Rd 70 - Hwy 84E
Palestine, TX 75801
RUSK DEPOT
Park Rd 76 - Hwy 84W
Rusk, TX 75785

1-888-987-2461
www.TexasStateRR.com

Available from the C&NW Historical Society

C&NW and CStPM &O Locomotive Facilities Engine Terminals – by A. Joseph Follmar
This second Facilities book covers the various coaling station, oil facilities, water tanks, pumphouses, and water treatment plants from pre-1900 up to and including the diesel era. Over 115 line art drawings, over 200 B&W photos, 8 pages of color photos. $30 each, Free s&h (IL residents please add 6.75% sales tax).

Copied from Company records, this book contains rosters from 1872 and 1876 (no diagrams), 1903 CStPM&O diagram book, 1907 C&NW diagram book and the combination of two C&NW (Plus CStPM&O) modern steam diagram books (plus some motor cars and RDCs). $35 each, s&h included (IL residents please add 6.75% sales tax.)
1 YEAR Membership:
Includes 4 issues of the North Western Lines magazine. $32.00 each.
TO ORDER, send a check to C&NWHS:
Al Griffin – C&NWHS
P.O. Box 1068
North Riverside, IL 60546
Visit us at www.cnwhs.org

About the Steam Today roster of operating locomotives

The roster of operating locomotives on pages 92-97 was compiled in winter 2007-2008 using first-hand reporting, interviews with the railroads, and review by a panel of experts in the tourist and railway museum industries. The roster is based on the expectations that engines listed would operate in a public setting at least one day this year. Privately owned engines that do not operate for the public were not listed as a courtesy to the owners' privacy and so as to not build expectations among readers.

Naturally, you should consider this list to be volatile. Some engines whose owners have every expectation that they will run this year won't for a variety of reasons, mechanical, personnel, and financial being among the top constraints. Likewise, some engines in preparation that are not listed here could appear on the scene at some point in 2008 for those same reasons. We listed only the engines that have a reasonable expectation of running this year. The late Bob Soule, longtime president of Tennessee Valley Railroad Museum in Chattanooga, often referred to the incandescence of steam locomotives: They glow brightly, but then fade quickly. The lesson here is that if an engine is running, see it today. The future of these magnificent machines is often hard to determine and fraught with unknowns.

For example, this year, Utah's Heber Valley Railroad 2-8-0 No. 618 will make limited appearances as the 1907 engine reaches the limit of its last mandatory Federal Railroad Administration 1,472-day inspection and must undergo another one. The FRA limits steam to 1,472 operating days — or a maximum of 15 years — between extensive inspections. While the Heber Valley is one of the best operated and managed heritage railways in the nation, the No. 618 could be out of service for a short time, or it could be several long years. All of it depends on what the inspection determines, and how quickly funding can be put together to rebuild the engine. The railroad's other 2-8-0, No. 75, is still in the shop. Steam *will* be back at Heber, it's just a question of when.

Similarly, mainline steam fans will want to find their way trackside to witness Milwaukee Road 4-8-4 No. 261 this year before this mainline engine's current 1,472-day inspection expires in mid-September.

To give readers an idea of how each engine is presented, the roster is presented by the road name currently applied to the engine. If it is different than the operator, then the owner is listed in parenthesis.

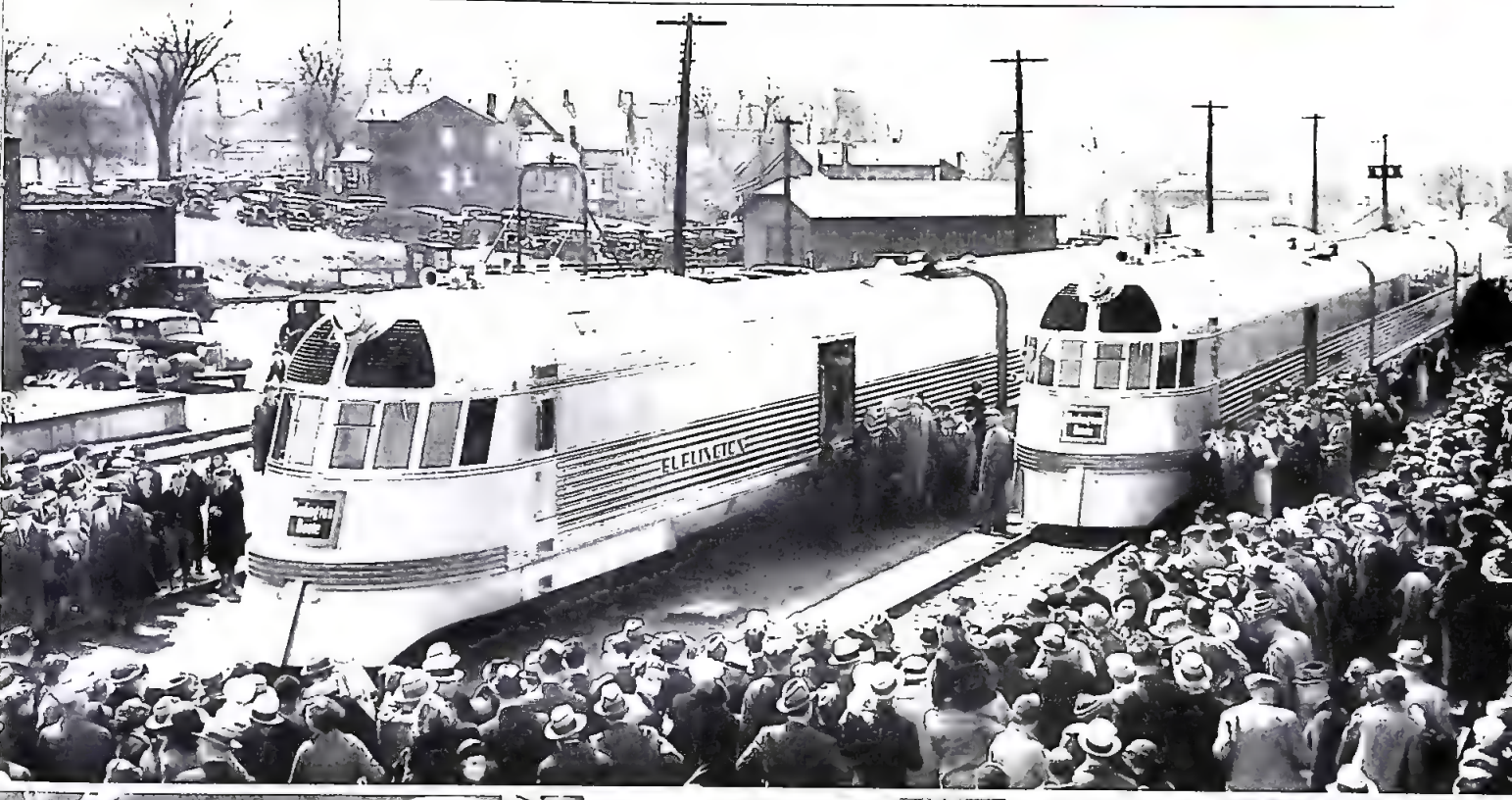
Be sure to contact venues to verify operation of these locomotives, specific dates, times, special events, festivals, and other activities. Then go and enjoy the wonder and power of steam today.

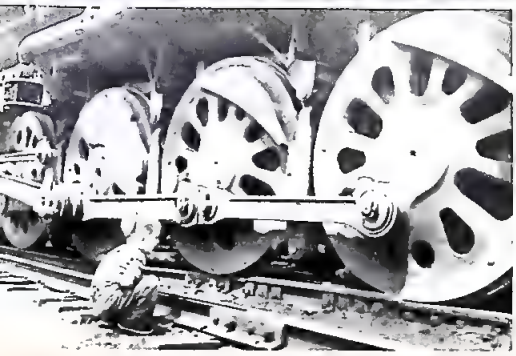
Celebrate The

Golden Era

Of Railroading

Classic Trains MAGAZINE



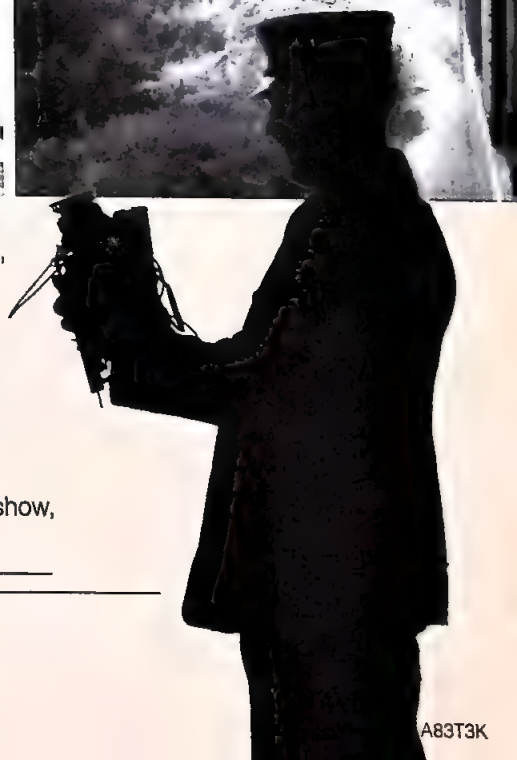


Classic Trains magazine takes you back to the golden years of railroading, the colorful 1930s – 1970s era. Remarkable photography, detailed historical studies, and first-hand accounts from railroaders and railfans bring the past alive.

Each Issue Features:

- Gritty, hardworking steam locomotives
- Colorful diesel pioneers
- Images from master photographers
- Great passenger trains
- Inside stories from railroad men
- Aerial photos of railroad facilities
- And much more!

Whether you lived during this fascinating era, or were born too late to witness the big show, we know you'll appreciate *Classic Trains* magazine.



Fill out and mail the attached card or

Subscribe today at www.ClassicTrainsMag.com

or call 1-800-533-6644

Monday-Friday, 8:30 am-5:00 pm Central Time. Outside the U.S. and Canada, call 262-796-8776, ext. 661

CIR-ADH-07X1450RH

A83T3K

Questions about your *Trains* subscription?

- Change of address
- Give a gift
- Renew your subscription
- Order back issues

Call 1-800-533-6644

Trains

RAILROADAMERICANA

ACQUISITIONS • SALES • APPRAISALS

Professional Personal Property Appraiser

- ISA Accredited
- Extensive collections appraisal experience
- Specializes in transportation artifacts/ephemera
- Also making acquisitions

RAILROAD AMERICANA
BRAD S. LOMAZZI
bslomazzi@att.net • (916) 782-6587

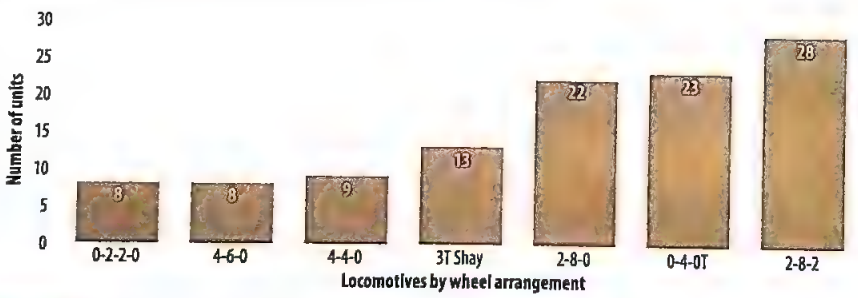
The "A"
Norfolk & Western's Mercedes of Steam
Revised by Ed King

176 pages, Hardcover
Retail Price $62.95
Pre-Publication Price $57.95
+$9.95 Shipping
VA residents add 5% sales tax

The original book about this most productive of locomotives has been greatly expanded to include much information not available to the author at the first writing, plus a foldout featuring side elevation drawings of the locomotive and the various tenders it pulled, plus many more photographs (color and black and white) and appendices covering N&W's tenders and the testing of Pennsylvania's Q2 4-4-6-4 conducted on the Scioto Division in August, 1948. Scheduled for Fall 2008 delivery.

ORDERS ACCEPTED 24 HOURS A DAY
BY PHONE OR FAX!
VISA, MASTERCARD & DISCOVER Accepted!
Phone: (540) 342-0575 · Fax: (540) 342-0972
Web orders: www.nwhs.org or mail to:
N&W Historical Society · Dept. TR
P.O. Box 13908 · Roanoke VA 24038-3908

Railroad/owner	Type	Number	Location	Builder	Year	Gauge
ALASKA						
Tanana Valley	0-4-0T	1	Fairbanks	Porter	1899	3-foot
White Pass & Yukon	2-8-0	69	Skagway	Baldwin	1908	3-foot
White Pass & Yukon	2-8-2	73	Skagway	Baldwin	1947	3-foot
ARIZONA						
Grand Canyon Railway	2-8-0	29	Williams	Alco	1906	Std.
Grand Canyon Railway	2-8-2	4960	Williams	Baldwin	1923	Std.
CALIFORNIA						
Atchison Topeka & Santa Fe (San Bernardino Railroad Historical Society)	4-8-4	3751	Los Angeles	Baldwin	1927	Std.
California Western	2-8-2	45	Fort Bragg	Baldwin	1924	Std.
Disneyland	2-4-4T	3	Anaheim	Baldwin	1894	3-foot
Disneyland	2-4-0	4	Anaheim	Baldwin	1925	3-foot
Disneyland	2-4-4T	5	Anaheim	Baldwin	1902	3-foot
Fort Humboldt State Park	0-4-0T	Faulk	Eureka	Nat. Iron	1884	Std.
Fort Humboldt State Park	0-4-0T	Gypsy	Eureka	Nat. Iron	1892	Std.
Granite Rock (California State Railroad Museum)	0-6-0T	10	Sacramento	Porter	1942	Std.
Kirtlan's Silver Bend	0-4-0T	202	Clarksburg	Porter	1913	Std.
Knott's Berry Farm	2-8-0	41	Buena Park	Baldwin	1881	3-foot
Knott's Berry Farm	2-8-0	340	Buena Park	Baldwin	1881	3-foot
Blake Brothers Co. (Roots of Motive Power)	2T Heisler	1	Willits	Heisler	1916	Std.
Mason County Logging Co. (Roots of Motive Power)	2-6-2T	7	Willits	Baldwin	1910	Std.
Pacific Coast Railroad	2-4-0	2	San Luis Obispo	Vulcan	1927	3-foot
Pacific Coast Railroad	2-6-2	3	San Luis Obispo	Porter	1897	3-foot
Poway-Midland	0-4-0	3	Poway	Baldwin	1907	42-inch
Roaring Camp & Big Trees	2T Shay	1	Felton	Lima	1912	3-foot
Roaring Camp & Big Trees	2T Heisler	3	Felton	Heisler	1900	3-foot
Roaring Camp & Big Trees	3T Shay	7	Felton	Lima	1911	3-foot
Roaring Camp & Big Trees	0-4-0T	Khuku	Felton	Baldwin	1890	3-foot
Sierra Railway (Railtown 1897)	3T Shay	2	Jamestown	Lima	1922	Std.
Sierra Railway (Railtown 1897)	2-8-0	28	Jamestown	Baldwin	1922	Std.
Sierra Railroad	2-8-2	18	Oakdale	Baldwin	1914	Std.
Southern Pacific (Golden Gate Railroad Museum, running at Niles Canyon Ry.)	4-6-2	2472	Sunol	Baldwin	1921	Std.
Quincy Railroad (Niles Canyon Railway)	2-6-2T	2	Sunol	Alco	1924	Std.
Robert Dollar (Niles Canyon Railway)	2-6-2T	3	Sunol	Alco	1927	Std.
Yosemite Mountain Sugar Pine Railroad	3T Shay	10	Fish Camp	Lima	1928	3-foot
Yosemite Mountain Sugar Pine Railroad	3T Shay	15	Fish Camp	Lima	1913	3-foot
Yreka Western	2-8-2	19	Yreka	Baldwin	1915	Std.



COLORADO						
Royal Gorge (ex-Georgetown Loop, operating at Colorado Railroad Museum)	3T Shay	12	Golden	Lima	1927	3-foot
Royal Gorge (ex-Georgetown Loop, operating at Colorado Railroad Museum)	3T Shay	14	Golden	Lima	1916	3-foot
Royal Gorge (ex-Georgetown Loop, operating at Colorado Railroad Museum)	2-8-0	40	Golden	Baldwin	1921	3-foot
Denver & Rio Grande Western (Colorado Railroad Museum)	2-8-0	346	Golden	Baldwin	1881	3-foot

Railroad/owner	Type	Number	Location	Builder	Year	Gauge
Cripple Creek & Victor	0-4-4-0	1	Cripple Creek	Orenstein & Koppel	1901	2-foot
Cripple Creek & Victor	0-4-0	2	Cripple Creek	Henschel	1936	2-foot
Cripple Creek & Victor	0-4-0	3	Cripple Creek	Porter	1927	2-foot
Durango & Silverton	2-8-2	473	Durango	Alco	1923	3-foot
Durango & Silverton	2-8-2	478	Durango	Alco	1923	3-foot
Durango & Silverton	2-8-2	480	Durango	Baldwin	1925	3-foot
Durango & Silverton	2-8-2	481	Durango	Baldwin	1925	3-foot
Durango & Silverton	2-8-2	482	Durango	Baldwin	1925	3-foot
Durango & Silverton	2-8-2	486	Durango	Baldwin	1925	3-foot
Georgetown Loop	2-6-2	12	Silver Plume	Baldwin	1928	3-foot
Rio Grande Scenic	2-6-0	1744	Alamosa	Baldwin	1901	Std.
Rio Grande Scenic	2-8-0	18	Alamosa	Alco	1910	Std.
Denver & Rio Grande Western (Durango Railroad Historical Society)	2-8-0	315	Durango	Baldwin	1895	3-foot
CONNECTICUT						
Hawaii Ry. (Connecticut Antique Machinery Association)	2-4-2	5	Kent	Baldwin	1925	3-foot
Valley Railroad Co.	2-8-0	97	Essex	Alco	1923	Std.
Valley Railroad Co.	2-8-2	40	Essex	Alco	1920	Std.
DELAWARE						
Wilmington & Western	4-4-0	98	Wilmington	Alco	1907	Std.
Wilmington & Western	0-6-0	58	Wilmington	Alco	1909	Std.
FLORIDA						
Walt Disney World Railroad	4-6-0	1	Lake Buena Vista	Baldwin	1925	3-foot
Walt Disney World Railroad	2-6-0	2	Lake Buena Vista	Baldwin	1928	3-foot
Walt Disney World Railroad	4-6-0	3	Lake Buena Vista	Baldwin	1925	3-foot
Walt Disney World Railroad	4-4-0	4	Lake Buena Vista	Baldwin	1916	3-foot

*Other: O&K, Henschel, National Iron, Datong, Tangshane Algiers, Swedish Rys., Mason, Manchester

GEORGIA						
Hardaway Contracting Co. (Georgia Agrirama)	0-4-0T	1	Tifton	Vulcan	1917	3-foot
Savannah Central (Roundhouse Railroad Museum)	0-4-0T	30	Savannah	Alco	1913	Std.
HAWAII						
Lahaina, Kaanapali & Pacific	2-4-0	1 Anaka	Lahaina	Porter	1943	3-foot
Lahaina, Kaanapali & Pacific	2-4-0	3 Myrtle	Lahaina	Porter	1943	3-foot
IDAHO						
Eureka Nevada (Silverwood Theme Park)	2-6-2	7	Athol	Porter	1915	3-foot
ILLINOIS						
Silver Creek & Stephenson	2T Heisler	2	Freeport	Heisler	1912	Std.
INDIANA						
LaPorte County Historical Steam Society	0-8-0	99-3361	Hesston	Orenstein & Koppel	1939	2-foot
LaPorte County Historical Steam Society	0-4-0T	1940	Hesston	Henschel	1934	3-foot
New Mexico Lumber/Oregon Lumber (LaPorte County Historical Steam Society)	3T Shay	4	Hesston	Lima	1929	3-foot
Nickel Plate Road (Fort Wayne Railroad Historical Society)	2-8-4	765	New Haven	Lima	1944	Std.
IOWA						
Boone & Scenic Valley	2-8-2	JS8419	Boone	Datong	1989	Std.
Iowa Interstate	2-10-2	6988	Newton	Datong	1985	Std.
Iowa Interstate	2-10-2	7081	Newton	Datong	1986	Std.
West Side Lumber (Midwest Central)	3T Shay	9	Mount Pleasant	Lima	1923	3-foot

CALIFORNIA RAILS
1950s
A Color Pictorial
Photography by Dallas Gilbertson

Dallas Gilbertson made an effort to photograph the last of steam in the Golden State during the early and mid-1950s. SP and shortlines still had extensive steam operations during this period. Dallas also extensively photographed California's electric railways in LA and the Bay Area.

This new 128 page all-color hardbound book features hundreds of rare vintage photographs. To receive your copy upon publication, order before March 15, 2008 to take advantage of our special pre-publication offer of only $46 plus $4 s/h, $10 foreign. California residents include $4 tax.
The regular price will be $59.95 each + $4 shipping, $10 foreign.

Four Ways West
PUBLICATIONS
14618 Valley View Ave - La Mirada, CA 90638-4351
Visa or MasterCard = Fax orders to: 714-521-5664
email orders to: fourwayswest@ca.rr.com
Phone orders to: 714-521-4259 8 am-5 pm PST
Visit our website: www.fourwayswest.com

SKUNK TRAIN

Regarded as one of the ten best train trips in America, ride from the coastal town of Fort Bragg, California into the mountains, through tunnels, and over thirty bridges to the California redwoods. Open daily Spring through Fall. Ask about our annual **Steam Celebration** June 13–15, 2008.

SIERRA RAILROAD

The Sierra has operated one of the West's five best dinner trains from our Oakdale station since 1999. Now we're hosting the former **McCloud #18** steam engine while its future home on the Virginia & Truckee Railway is being built. During this time, thirty-plus trips a year are scheduled with the #18.

Call 800-866-1690 for reservations
Open 8:00 a.m.–8:00 p.m. 7 Days

Visit us
at our web site:
▸▸ **www.TrainsMag.com**

TRAIN
Tourist Railway Association INc.
TRAIN since 1972

LEADERSHIP IN CREATIVE RAILROADING

Providing "How-To" networking to get what you need

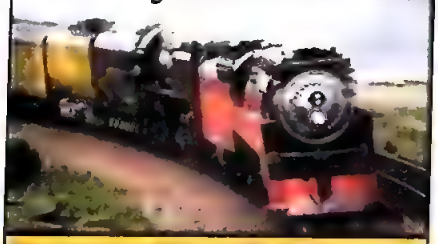
Timely news on the Tourist Railway industry

TrainLine, the source of comprehensive news

Regulatory and operating problems helpline

For complete information of services and membership visit www.traininc.org or call 800-678-7246 TODAY

www.HighDefTrains.com



Legends of Steam

Volume I covers UP 844's Portland Rose trip from Wyoming to Oregon. 65 min of footage, plus expanded onboard and bonus material.

Volume II has complete coverage of all four days of SP 4449 and UP 844 doubleheading! 80 min of full bore steam action plus over 120 minutes of expanded onboard and bonus footage.

Volume III covers the UP 844's return trip from Portland all the way back to Cheyenne, WY. 65 min plus bonus footage.

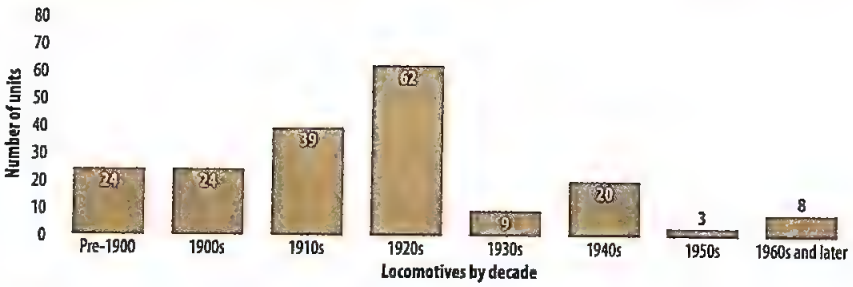
Widescreen DVD $28.50 each
HD Blu-ray BD-R* $48.50 each
Buy all three volumes and save!
DVD $68.50 BD-R* $118.50

Marcam Productions
12332 SW 72nd Ave #134
Tigard, Oregon 97223

Mail check/MO, or securely use credit card online. Please add $5 S&H. A portion of each sale goes to support the Oregon Rail Heritage Foundation. *Make sure your Blu-ray player supports BD-R media prior to order!

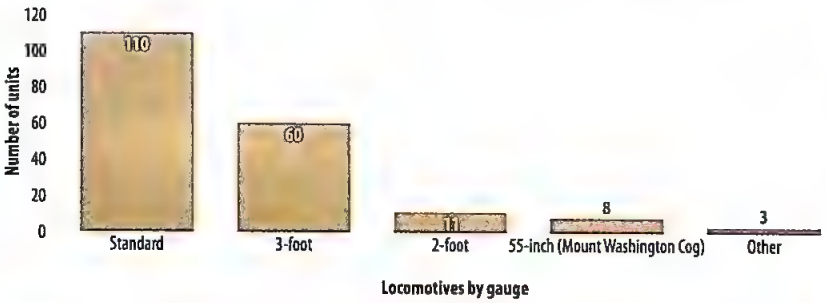
www.HighDefTrains.com

Railroad/owner	Type	Number	Location	Builder	Year	Gauge
Midwest Central	0-4-0T	16	Mount Pleasant	Henschel	1951	3-foot
Surry, Sussex & Southhampton (Midwest Central)	2-6-0	6	Mount Pleasant	Baldwin	1891	3-foot
KENTUCKY						
Louisville & Nashville (Kentucky Railway Museum)	4-6-2	152	New Haven	Rogers	1905	Std.
R.J. Corman	2-10-2	7040	Lexington	Datong	1986	Std.
LOUISIANA						
Southern Pacific (Louisiana Steam Train Association)	2-8-2	745	New Orleans	Algiers	1921	Std.
MAINE						
Boothbay Railway Village	0-4-0T	12313	Boothbay	Henschel	1913	2-foot
Boothbay Railway Village	0-4-0T	22486	Boothbay	Henschel	1934	2-foot
Maine Narrow Gauge Railroad Co. & Museum	0-4-4T	4	Portland	Vulcan	1918	2-foot
Wiscasset, Waterville & Farmington	0-4-4T	10	Alna	Vulcan	1904	2-foot
MARYLAND						
Baltimore & Ohio (B&O Railroad Museum)	4-4-0	25 William Mason	Baltimore	Mason	1856	Std.
St. Elizabeth Hospital (B&O Railroad Museum)	0-4-0T	4	Baltimore	Porter	1950	Std.
Western Maryland Scenic	2-8-0	734	Cumberland	Baldwin	1916	Std.
MASSACHUSETTS						
Edaville	0-6-0	Anne Elizabeth	South Carver	Hudswell-Clarke	1935	2-foot



MICHIGAN						
Buckley Railroad	0-4-0T	207	Buckley	Alco	1924	Std.
Lake Linden & Torch Lake	0-4-0T	3	Lake Linden	Porter	1915	3-foot
Calumet & Hecla Mining Co. (The Henry Ford)	0-6-4	3 Torch Lake	Dearborn	Mason	1873	Std.
The Henry Ford	4-4-0	Edison	Dearborn	Manchester	1876	Std.
Huckleberry Railroad	4-6-0	2	Flint	Baldwin	1920	3-foot
Denver & Rio Grande Western (Huckleberry Railroad)	2-8-2	464	Flint	Baldwin	1903	3-foot
Little River Railroad	0-4-0T	1	Coldwater	Unknown	1908	Std.
Little River Railroad	4-6-2	110	Coldwater	Baldwin	1911	Std.
Pere Marquette (Steam Railroading Institute)	2-8-4	1225	Owosso	Lima	1941	Std.
Flagg Coal Co. (Steam Railroading Institute)	0-4-0T	75	Owosso	Vulcan	1930	Std.
MINNESOTA						
Iron Horse Central	0-4-0	4	Chisago City	Porter	1922	Std.
Lake Region Pioneer Threshermen's Association	0-4-0T	2	Dalton	Decauville	1914	Std.
Milwaukee Road (Friends of the 261)	4-8-4	261	Minneapolis	Alco	1944	Std.
Western Minnesota Steam Threshers Association	0-4-0T	3	Rollag	Porter	1924	Std.
Western Minnesota Steam Threshers Association	0-6-0	353	Rollag	Alco	1920	Std.
Soo Line (Locomotive & Tower Fund, owner; Lake Superior Railroad Museum)	4-6-2	2719	Duluth	Alco	1923	Std.
MONTANA						
Alder Gulch Short Line	2-8-0	12	Virginia City	Baldwin	1910	30-inch
NEVADA						
Eureka & Palisade (Dan Markoff)	4-4-0	4 Eureka	Las Vegas	Baldwin	1875	3-foot
Nevada Northern	4-6-0	40	East Ely	Baldwin	1910	Std.
Nevada Northern	2-8-0	93	East Ely	Alco	1909	Std.

Railroad/owner	Type	Number	Location	Builder	Year	Gauge
Nevada State Railroad Museum	4-4-0	8	Carson City	Cooke	1888	Std.
Virginia & Truckee (Nevada State Railroad Museum)	4-4-0	22 Inyo	Carson City	Baldwin	1875	Std.
Virginia & Truckee (Nevada State Railroad Museum)	4-6-0	25	Carson City	Baldwin	1905	Std.
Virginia & Truckee	2-8-0	29	Virginia City	Baldwin	1916	Std.
NEW HAMPSHIRE						
Conway Scenic	0-6-0	7470	North Conway	Port Charles	1921	Std.
Mount Washington Cog	0-2-2-0	1	Bretton Woods	Manchester	1883	55-inch
Mount Washington Cog	0-2-2-0	2	Bretton Woods	Manchester	1875	55-inch
Mount Washington Cog	0-2-2-0	3	Bretton Woods	Manchester	1883	55-inch
Mount Washington Cog	0-2-2-0	4	Bretton Woods	Manchester	1883	55-inch
Mount Washington Cog	0-2-2-0	6	Bretton Woods	Manchester	1878	55-inch
Mount Washington Cog	0-2-2-0	8	Bretton Woods	Manchester	1892	55-inch
Mount Washington Cog	0-2-2-0	9	Bretton Woods	Manchester	1908	55-inch
Mount Washington Cog	0-2-2-0	10	Bretton Woods	Cog shop	1969	55-inch
White Mountain Central	0-4-0T	1	Lincoln	Porter	1931	Std.
White Mountain Central	2-4-2T	5	Lincoln	Baldwin	1906	Std.
White Mountain Central	2T Climax	6	Lincoln	Climax	1920	Std.
NEW JERSEY						
Susquehanna (Delaware River Railroad)	2-8-2	142	Phillipsburg	Tangshane	1988	Std.



NEW MEXICO						
Cumbres & Toltec Scenic	2-8-2	484	Chama	Baldwin	1925	3-foot
Cumbres & Toltec Scenic	2-8-2	487	Chama	Baldwin	1925	3-foot
Cumbres & Toltec Scenic	2-8-2	488	Chama	Baldwin	1925	3-foot
Cumbres & Toltec Scenic	2-8-2	489	Chama	Baldwin	1925	3-foot
NEW YORK						
Erie Canal Village	0-4-0T	16	Rome	Davenport	1910	2-foot
Arcade & Attica	2-8-0	18	Arcade	Alco	1920	Std.
NORTH CAROLINA						
Handy Dandy Railroad	0-4-0	9	Denton	Porter	1942	Std.
New Hope Valley	0-4-0T	17	Bonsal	Vulcan	1941	Std.
Tweetsie Railroad	4-6-0	12	Boone	Baldwin	1917	3-foot
Tweetsie Railroad	2-8-2	190	Boone	Baldwin	1943	3-foot
OHIO						
Cedar Point & Lake Erie	2-4-0	4	Sandusky	Porter	1942	3-foot
Cedar Point & Lake Erie	2-4-0	22	Sandusky	Vulcan	1922	3-foot
Cedar Point & Lake Erie	2-4-0	5	Sandusky	Vulcan	1923	3-foot
Ohio Central	2-8-0	33	Morgan Run	Baldwin	1916	Std.
Ohio Central	4-6-2	1293	Morgan Run	Canadian	1948	Std.
Ohio Central	4-8-4	6325	Morgan Run	Alco	1942	Std.
OREGON						
Curtiss Lumber Co. (Oregon Coast Scenic Railroad)	2T Heisler	2	Garibaldi	Heisler	1910	Std.
Spokane Portland & Seattle (Pacific Railroad Preservation Association)	4-8-4	700	Portland	Baldwin	1938	Std.
Southern Pacific (Friends of SP 4449)	4-8-4	4449	Portland	Lima	1941	Std.
Sumpter Valley	2T Heisler	3	McEwen	Heisler	1913	3-foot
Sumpter Valley	2-8-2	19	McEwen	Alco	1920	3-foot
Mount Emily Lumber (City of Prineville Railway)	3T Shay	1	Prineville	Lima	1923	Std.
PENNSYLVANIA						
Canadian Pacific (Steamtown)	4-6-2	2317	Scranton	Montreal	1923	Std.

Chehalis-Centralia Steam Train

1916 Baldwin 2-8-2 on ex-MILW track over trestles and through the Chehalis River Valley. Weekends, Memorial Day weekend thru September. Dinner trains, group rates, charters, specials are also available. On I-5 between Seattle and Portland at Exit 77.

www.steamtrainride.com
phone: (360) 748-9593

Ride this historic railroad year-round through the majestic mountains of Southwest Colorado and take a step back in time and history.

Call or visit our Web site for special events and excursions throughout the year.

1-888-TRAIN-07
www.durangotrain.com
479 Main Avenue, Durango, Colorado

Enjoy
a scenic Train Ride

Historic
Locomotives & Trains
in Romney, West Virginia

- Regular 3.5 hour excursions & selected all-day trips available
- First class & coach seating available on all trains
- Excursions operate Saturday & some Sundays May – September
- Daily departures in October, check out our website for schedule

In 2005, 2006, & 2007 eagles were seen on every Train Ride

Information and Reservations:
304-424-0736 • www.potomaceagle.info
Potomac Eagle, Wappocomo Station,
Route 28 North, P.O. Box 657
Romney, WV 26757

POTOMAC EAGLE

Get MORE railroading news when you subscribe

>> Subscribe online
www.TrainsMag.com

The oldest existing Pacific still in steam, Louisville & Nashville No. 152, operates at the Kentucky Railway Museum near New Haven. This graceful 1905 Rogers product is set to run a total of 20 days in 2008 between May and November. David Oroszi

Small in stature but big on personality is Little River Railroad 4-6-2 No. 110, the smallest standard-gauge Pacific ever built. The Baldwin-made locomotive, which hauls tourists at Coldwater, Mich., weighs but 65 tons. TRAINS: Jim Wrinn

Among the many narrow-gauge Mikados that make this wheel arrangement the most prevalent among operating engines is Rio Grande No. 464, a rare K-27 type, which operates on the Huckleberry Railroad near Flint, Mich. Jeff Mast

Railroad/owner	Type	Number	Location	Builder	Year	Gauge
Canadian National (Steamtown)	2-8-2	3254	Scranton	Canadian	1917	Std.
East Broad Top	2-8-2	15	Orbisonia	Baldwin	1914	3-foot
Middletown & Hummelstown	2-6-0	91	Middletown	Canadian	1910	Std.
New Hope & Ivyland	2-8-0	40	New Hope	Baldwin	1925	Std.
Pioneer Coal Mine	0-4-0T	Henry Clay	Ashland	Vulcan	1927	42-inch
Pennsylvania (Williams Grove Historical Steam Engine Association)	0-6-0	643	Mechanicsburg	Altoona	1901	Std.
Strasburg Rail Road	0-6-0T	Thomas	Strasburg	Porter	1917	Std.
Canadian National (Strasburg Rail Road)	0-6-0	7312	Strasburg	Baldwin	1908	Std.
Canadian National (Strasburg Rail Road)	2-6-0	89	Strasburg	Canadian	1910	Std.
Norfolk & Western (Strasburg Rail Road)	4-8-0	475	Strasburg	Baldwin	1906	Std.
Great Western (Strasburg Rail Road)	2-10-0	90	Strasburg	Baldwin	1924	Std.
Wanamaker, Kempton & Southern	0-6-0T	65	Kempton	Porter	1930	Std.
Reading & Northern	4-6-2	425	Port Clinton	Baldwin	1928	Std.
SOUTH DAKOTA						
Black Hills Central	2-6-2	7	Hill City	Baldwin	1919	Std.
Black Hills Central	2-6-2T	104	Hill City	Baldwin	1926	Std.
Black Hills Central	2-6-6-2T	110	Hill City	Baldwin	1928	Std.
Prairie Village	0-4-0T	11	Madison	Alco	1924	Std.
TENNESSEE						
Dollywood	2-8-2	70	Pigeon Forge	Alco	1920	3-foot
Dollywood	2-8-2	192	Pigeon Forge	Baldwin	1943	3-foot
Tennessee Valley	2-8-0	610	Chattanooga	Baldwin	1952	Std.
Washington & Lincoln (Three Rivers Rambler)	2-8-0	203	Knoxville	Baldwin	1923	Std.
TEXAS						
Grapevine Vintage Railroad	4-6-0	2248	Grapevine	Cooke	1896	Std.
Texas State Railroad	2-8-0	300	Rusk	Baldwin	1917	Std.
Texas State Railroad	4-6-0	201	Rusk	Alco	1902	Std.
UTAH						
Heber Valley	2-8-0	75	Heber City	Baldwin	1907	Std.
Oregon Short Line (Heber Valley)	2-8-0	1068	Heber City	Baldwin	1907	Std.
Union Pacific (Gold Spike National Historic Site)	4-4-0	119	Promontory Summit	O'Connor	1969	Std.
Central Pacific (Gold Spike National Historic Site)	4-4-0	Jupiter	Promontory Summit	O'Connor	1969	Std.
VIRGINIA						
Albemarle Paper Co. (Old Dominion Chapter, National Railway Historical Society)	0-6-0T	5019	Richmond	Porter	1942	Std.
WASHINGTON						
Cowlitz, Chehalis & Cascade (Chehalis-Centralia)	2-8-2	15	Chehalis	Baldwin	1916	Std.
Crossett Western (Chelatchie Prairie)	2-8-2T	10	Yacolt	Alco	1929	Std.
Mount Rainier Scenic	3T Heisler	91	Mineral	Heisler	1929	Std.
Mount Rainier Scenic	2-8-2T	17	Mineral	Alco	1929	Std.
WEST VIRGINIA						
Cass Scenic	3T Shay	2	Cass	Lima	1928	Std.
Cass Scenic	3T Shay	4	Cass	Lima	1922	Std.
Cass Scenic	3T Shay	5	Cass	Lima	1905	Std.
Cass Scenic	3T Heisler	6	Cass	Heisler	1929	Std.
Western Maryland (Cass Scenic)	3T Shay	6	Cass	Lima	1945	Std.
Cass Scenic	3T Shay	11	Cass	Lima	1923	Std.
Durbin & Greenbrier Valley	2T Climax	3	Durbin	Climax	1910	Std.
WISCONSIN						
Laona & Northern	2-6-2	4	Laona	Vulcan	1916	Std.
Rock River Thresheree	0-4-0	3	Edgerton	Henschel	1944	2-foot
Soo Line (1003 Operations, LLC)	2-8-2	1003	Hartford	Baldwin	1913	Std.
WYOMING						
Union Pacific	4-8-4	844	Cheyenne	Alco	1944	Std.
Union Pacific	4-6-6-4	3985	Cheyenne	Alco	1943	Std.

Advertisers

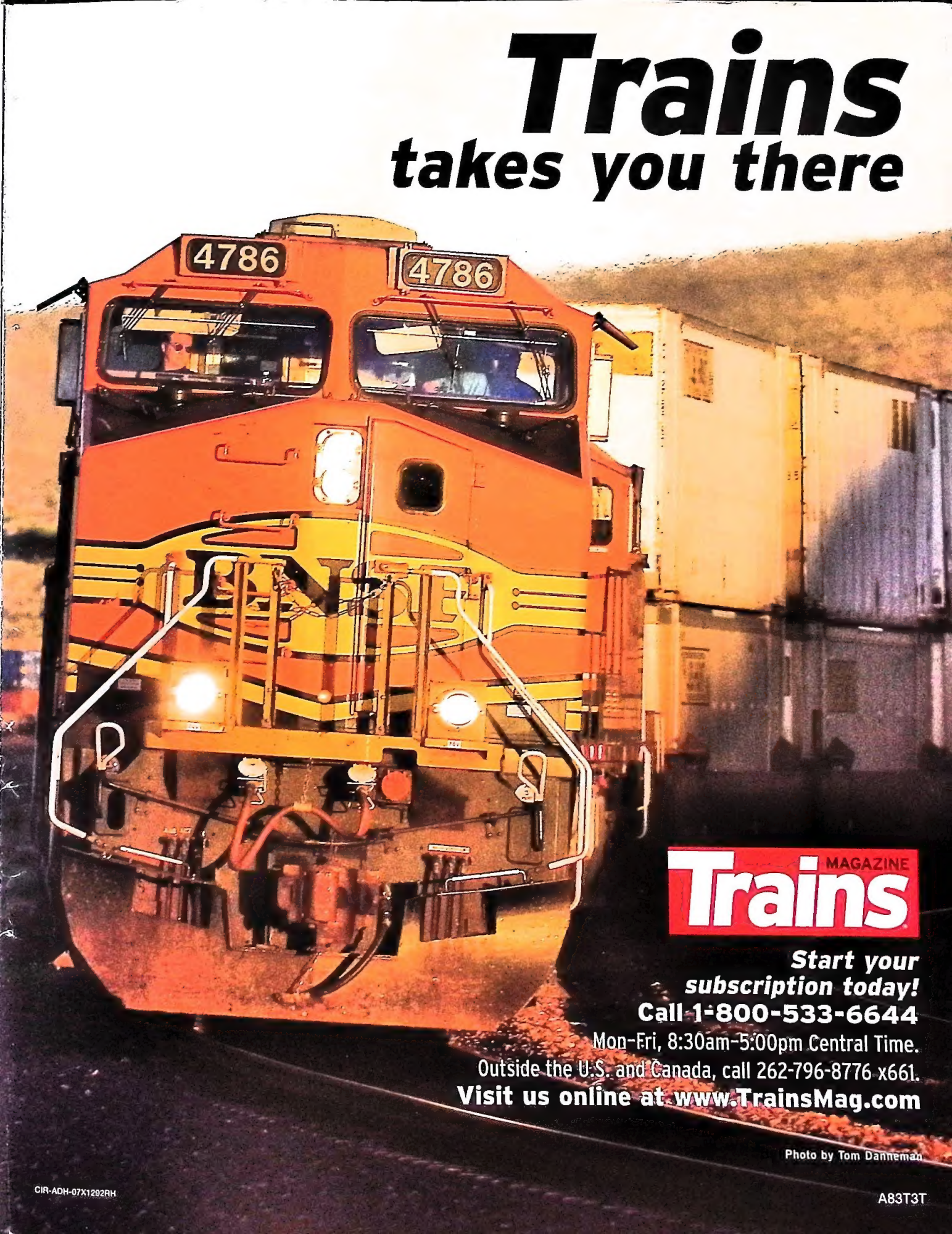
WE BELIEVE that our readers are as important as our advertisers; therefore, we try to handle all readers' complaints promptly and carefully. If, within 30 days you do not receive your merchandise or a satisfactory reply from an advertiser, please write to us. In your letter describe exactly what you ordered and the amount of money you sent. We will then forward your complaint to the advertiser for action. If no action is ultimately obtained, we will refuse to accept further advertising from them. Address complaints to: TRAINS, 21027 Crossroads Circle, P.O. Box 1612, Waukesha, WI 53187.

Art Olds Lithographs 9
Athearn Trains 11
Chehalis Centralia Railroad Association 95
Chicago & N' Western Historical Society 90
Classic Trains magazine 91
Colorado Railroad Museum 88
Cumbres and Toltec Railroad 8
Depot Inn and Suites 10
Durango and Silverton Narrow Gauge 95
Durbin and Greenbrier Valley Railroad 13
Four Ways West 93
Greg Scholl Video Productions 12
Highball Productions 14
Historic Machinery Services 10
Jomico, LLC. 90
Kentucky Railway Museum 15
Lake Superior Railroad Museum 89
Little River Railroad 9
Marcam Productions 94
Mid-Continent Railway Historical Society 5
Monte Vista Publishing 10
Napa Valley Wine Train 88
Nevada Northern Railway Museum 100
Norfolk & Western Historical Society 92
NRHS 2, 88
O. Winston Link Railway Productions 13
Potomac Eagle Scenic Railroad 96
Railroad Americana 92
Railway Productions 9
Rebel Rails, Inc. 90
Rich Yoder Models 9
San Luis & Rio Grande Railroad 89
Semaphore Records 8
Sierra Entertainment 93
Signature Press 14
Steam Railroading Institute 89
Strasburg Railroad Shops 15
Texas State Railroad 90
Tourist Railway Association 94
Trains magazine 98
Trains Unlimited, Tours 13
Vanishing Vistas 89

The lone Heisler on the otherwise all-Shay roster of the Cass Scenic Railroad is No. 6, built in 1929 and one of the last of these geared engines built. The locomotive is pulling a replica log train for photographers near Whittaker, W.Va. Chris Bost

Yreka Western 2-8-2 No. 19 takes water at Yreka, Calif., on a hot July 2007 day. The 1973 movie, "Emperor of the North Pole," featured this engine, and the graffiti on the water tank refers to the movie character "A-No. 1" riding No. 19. TRAINS: Jim Wrinn

Trains
takes you there



MAGAZINE
Trains

Start your subscription today!

Call 1-800-533-6644

Mon-Fri, 8:30am-5:00pm Central Time.

Outside the U.S. and Canada, call 262-796-8776 x661.

Visit us online at www.TrainsMag.com

Photo by Tom Danneman

CIR-ADH-07X1292RH

A83T3T

LIVE THE DREAM!

Your Hand on the Throttle.

Rent either a STEAM or Diesel Locomotive and head out on the mainline!

- **Steam locomotive rental** $695
  14 miles at the throttle!
- **Diesel locomotive rental** $495
  14 miles at the throttle!
- **Ultimate experience steam & diesel rental** $985
  28 miles at the throttle!

This is ***your*** opportunity to climb on board as the engineer. Head down to the century old enginehouse and help prepare your locomotive for the day's operations. At the mainline you climb up into the seat and receive instructions. Then the moment comes, you open the cylinder cocks, move the reverser forward, give two toots, crack open the throttle and slowly the locomotive starts moving. You're in control of 100-tons of iron horse heading down the main. This is steam railroading today! Either call or go online and make an appointment with history today!

EVADA NORTHERN RAILWAY
NATIONAL HISTORIC LANDMARK
ESTABLISHED 1905
ELY, NEVADA

NEVADA NORTHERN RAILWAY

1100 Avenue A • PO Box 150040 • Ely, Nevada 89315 • 1-775-289-2085 • www.nnry.com